# MOTION PICTURES AND RADIO

*Report of the Regents' Inquiry*

# Motion Pictures and Radio

*Publications of*

# THE REGENTS' INQUIRY

## Into the Character and Cost of Public Education in the State of New York

### GENERAL REPORT

EDUCATION FOR AMERICAN LIFE, A New Program for the State of New York

### ATLAS

SCHOOL DISTRICT ATLAS OF THE STATE OF NEW YORK. *Prepared by the District Superintendents of Schools under the Direction of the Inquiry*

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# Motion Pictures and Radio

*Modern Techniques for Education*

By ELIZABETH LAINE

1938

THE REGENTS' INQUIRY

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THE REGENTS' INQUIRY INTO THE CHARACTER AND COST
OF PUBLIC EDUCATION IN THE STATE OF NEW YORK

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# FOREWORD

THE Inquiry into the Character and Cost of Public Education in the State of New York was undertaken in order to find out what the educational system of the State is accomplishing, how well its total program fits present-day needs, and what the costs of that program are and should be, and to assist the Regents in considering the present needs and problems of the school system, and in reformulating the fundamental educational policies of the State. Under the provisions of the state Constitution, this responsibility falls primarily upon the Regents.

The Inquiry was organized late in 1935, under the direction of a Special Committee of the Board of Regents, consisting of John Lord O'Brian, William J. Wallin, and Owen D. Young, Chairman. Thomas J. Mangan, the present Chancellor, and James Byrne, the former Chancellor, have sat with the Committee as ex-officio members from its inception.

The work of the Inquiry has been divided into three major undertakings: first, the examination of the educational enterprise of the State and the analysis of its outcomes, methods, and costs; second, the critical appraisal of the work now under way; and third, the formulation of policies and programs for dealing with the immediate problems and issues, and long-range objectives of the educational system of the State. The purpose of the Inquiry has not been to gather great masses of statistics, to devise numerous questionnaires, or to present meticulous factual descriptions of every phase of education within the State. Rather, the Regents' Committee and the staff of the Inquiry have been interested in isolating major issues and in hammering away at the problems which presented themselves in order to find a reasonable comprehensive

solution which would commend itself to the forward-minded people of the State of New York.

In conformity with this resolution, the Inquiry is publishing a limited part of the materials which have been brought together—such studies as bear directly upon central issues and major problems emerging in public education. Among these is a special study of the use of the motion picture and the radio in the schools by Dr. Elizabeth Laine, a member of the research staff of the Inquiry. The study, made during the latter part of 1936 and the first part of 1937, required numerous visits, not only to places within New York State, but also to Minnesota, Wisconsin, Illinois, Ohio, and Washington, D.C. Many public officials of these states, specialists in education, publicists, as well as those directly connected with some branch of the technical and commercial development of the motion picture and the radio, have willingly given their valuable assistance to this inquiry. So many individuals are involved that an acknowledgment of each is impossible.

The views expressed in this volume are those of the author; the Regents do not assume responsibility for them. The Regents wish, however, to express their deep appreciation to Miss Laine for the important contribution she has made to education and to the Inquiry through this study.

LUTHER GULICK

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CHAPTER I

# The Role of the Motion Picture Theatre

EDUCATION in its broadest sense includes all the influences which affect the thoughts, feelings, attitudes, and standards of mankind. In this sense education embraces all of the varied experiences of life itself, in particular, contacts with other minds. The impact of ideas, no matter how communicated, constitutes a tremendous influence on the thoughts of all members of society. Because they are unremittingly at work and because their compass is exceedingly wide, periodicals, motion pictures, and the radio are among the most powerful disseminators of ideas. This is an important fact for educators to remember, for no matter what may be the effects of their organized educational endeavors, it is certain that they are modified by the tremendous influence exerted by these powerful agencies. The present discussion deals with the theatrical motion picture as a medium of such mass impression or indirect education.

While it is generally conceded that the motion picture is an effective influence, the extent of its power is variously estimated. To many it does not seem so powerful a molder of public opinion as either the radio or the newspaper. At a meeting of the Institute of Human Relations[1] held during the summer of 1937, prominent speakers expressed the view that of the three, the newspaper was still the most powerful. This is also the opinion of several adult groups who responded to a ques-

[1] Held at Williamstown, Massachusetts, August 28 to September 3, 1937. Reported in *North Adams Transcript*, September, 2, 1937.

tionnaire sent out in New York State.[2] Out of thirty-two organizations expressing an opinion on this point, twenty considered the press the most important agency for providing new information, and fifteen out of the total of thirty who voted considered it the most important influence on opinion and conduct. In both of these roles the motion picture was considered the least effective of the three agencies, being placed last on the list in both instances by twenty-eight and by seventeen organizations respectively. The producers of the pictures are of similar mind, placing all motion pictures in the category of entertainment. One representative of the industry recently explained that the expressed purpose of the theatrical film was to entertain, and that the industry felt itself to be upon thoroughly solid and proper grounds in adhering to this point of view: "Motion picture executives do not envision themselves as teachers, statesmen, churchmen, or economists. They are showmen; at least they seek to be."[3]

On the other side are those who hold that the motion picture is the most powerful of these three mediums of influence. The authors of the Payne Fund Studies are among those who believe that motion pictures are profoundly influential, especially as they affect the immature. These studies maintain that motion pictures affect seriously the ideas, social attitudes, conduct, emotional responses, moral standards, sleep, and bodily health of children. The following quotation from the summary volume of the Payne Studies indicates briefly the nature of the central conclusion.

> The motion picture, as such, is a potent medium of education. Children even of the early age of eight see half the facts in a picture and remember them for a surprisingly long time. A single exposure to a picture may produce a measurable change in attitude. Emotions are measurably stirred as the scenes of a drama unfold and this excitement may be recorded in

[2] Sent out by the Regents' Inquiry, July, 1937.

[3] Martin Quigley. An address given before the Institute of Human Relations. Reported in *The New York Times*, September 1, 1937.

deviation from the norm in sleep patterns, by visible gross evidences of bodily movement and by refined internal responses. They constitute patterns of conduct in daydreaming, phantasy and action. The evidence of their influence is massive and irrefutable.[4]

Although the findings of the Payne Fund tend to corroborate the vaguely formed opinions of many, they are not universally accepted as fact, especially in their presentation of exact measurements. Outstanding among those who question the reliability of these experimental studies, particularly those which deal with the influence of the motion picture on delinquency and crime, is Mortimer J. Adler, whose book, *Art and Prudence*, sets forth his reasons for a lack of confidence in these studies.[5] Professor Adler's criticisms are that the investigators were too naive in their acceptance of answers to leading questions, especially those of delinquents and criminals, and placed too much reliance on the inadequate numerical evidence at hand. It is only fair to say, however, that the authors of the various Payne Fund Studies reiterate that they are aware of the inconclusiveness of many of their findings. Undoubtedly then, the results of these studies should be taken only as general indicators and not as absolute statements of fact. Since experimentation of this kind is subject to incalculable difficulties, it is doubtful whether it will ever be possible to obtain accurate measurements of the degree of influence that motion pictures exert upon human life and thought.

Whatever the specific estimates arrived at, however, the general belief is that motion pictures are a powerful factor in shaping thought and conduct. Although the primary motive of those attending motion pictures is diversion, nevertheless, their standards of value and conduct are thereby influenced. The authors of *How Fare American Youth?* state that the youth

[4] W. W. Charters, *Motion Pictures and Youth: A Summary*, page 60. New York: The Macmillan Company, 1933.

[5] Mortimer J. Adler, *Art and Prudence*. New York: Longmans Green and Company, 1937. See especially pages 273–88.

of our country are conscious of the lack of recreational facilities and leadership which prevails, and that they depend largely on motion pictures, automobiles, and certain less wholesome devices for their amusement. Speaking of motion pictures, these authors say:

> They exercise their hold on young people partly because they are readily available while other ways of spending spare time are not. Surveys prove that young persons whose home life is stimulating and whose recreational life is full and varied are infrequent visitors at movie houses. Figures, secured from questionnaires, show that approximately one-third of the regular youthful attendants at movies go from lack of anything else to do.[6]

With an average weekly attendance of eighty-five millions at motion picture theatres,[7] impressions of every conceivable kind must indeed be made on the spectators. "Wherever local patterns of conduct are not clear," as the investigators of "Middletown" have said, "the sharp figures on the silver screen of the movies are always authoritatively present with their gay and confident designs for living."[8] Therefore, whether motion pictures are intended for entertainment or otherwise, in that they present information and suggest ways of dealing with life problems, they must be regarded as definitely educational in character.

## THE INFLUENCE OF FEATURE FILMS

It will not be possible to present all of the different ways that feature pictures are deemed educational. Certainly all historical films are in this category. Such films portray factual material; they reconstruct past events. No one would deny that The Tale of Two Cities, Rasputin, The Story of Louis

[6] Homer P. Rainey, and Others, *How Fare American Youth?* pages 81–82. New York: D. Appleton-Century Company, 1937.

[7] From a conversation with Carl E. Milliken, Secretary of the Motion Picture Producers and Distributors of America.

[8] Robert S. and Helen Merrell Lynd, *Middletown in Transition*, page 176. New York: Harcourt, Brace and Company, 1937.

Pasteur, and The Life of Emile Zola were instrumental in conveying historical information to millions of persons. These films, and many others, dealing with actual happenings in the history of mankind, assume the task of explaining and of instructing in matters of historical fact. The Covered Wagon and The Great Iron Horse, though less closely based on fact, were also of this type since they presented in heroic fashion the mass movement of people in settling the West.

Again, motion pictures are frequently pictorial interpretations of literary compositions of proved greatness. The producers of such films attempt to bring to the masses the uniquely conceived ideas of the genius of the world. Some of the outstanding literary films have been Les Miserables, Romeo and Juliet, A Midsummer Night's Dream, David Copperfield, Moby Dick, and Anna Karenina. Many films have a conspicuously geographical interest. The Good Earth, Elephant Boy, and Mutiny on the Bounty are important illustrations. Still others, for example, I Escaped from a Chain Gang and The Big House, deliberately focus attention on social problems and social institutions. But whatever their theme, all films portray life in some aspect or another, and to that extent are instructive and educational. Most films portray the interaction of human beings and show the way problems are faced and solved, or fail to be solved. Likewise, many films set forth social usages, manners, and customs and thus inevitably become patterns and exemplars. And because of the vividness of its presentation, screen conduct not only informs but also tends to influence the conduct of the audience. Take but a single example. Drinking as a social custom has become a common incident in almost every feature picture. It is inconceivable that such constant reiteration would fail to produce a deep impression upon many spectators. Altogether, it is safe to say that motion pictures do have an important effect upon children and upon adults; and it would seem to follow that to the extent that motion pictures definitely influence

the knowledge, the thoughts, the emotions, the attitudes, or the social values of men, a distinct social responsibility devolves upon their producers. Nor is the mere avoidance of blatant indecency enough. Films should neither convey incorrect factual information nor implant false conceptions or improper attitudes, but instead should instruct and educate correctly, and in a way that is acceptable to those most deeply interested in the improvement of the social order.

Interested groups have from time to time brought pressure of one sort or another upon the producers to stimulate the production of educationally desirable theatrical motion pictures. Reviews, state censorship, local endorsement, and the teaching of motion picture appreciation are the principal means being employed at the present time to promote improvement of the amusement film.

Many organizations have volunteer committees that preview photoplays and make their selections on the basis of the educational, moral, and cultural values of films. *The Motion Picture Review Digest* lists about forty organizations that furnish it with digest material. Among these are the National Council for Prevention of War, the California Congress of Parents and Teachers, the National Society of the Daughters of American Revolution, the General Federation of Women's Clubs, the National Council of Jewish Women, and the Young Men's Christian Association. The Legion of Decency, organized expressly for the purpose of ridding the screen of morally subversive stories, obscenities, and indecencies, also previews and passes on films. At the recent Williamstown gathering, its representative, Reverend Gerald B. Donnelly, said, "In none of the more recent films is the hero a glamorous gangster or an admirable rebel against the moral or civil law"[9] and added that during the past several years the Legion had approved 97 per cent of the Hollywood product.

[9] Reported in *The Springfield Daily Republican*, September 2, 1937.

The National Board of Review of Motion Pictures, a volunteer citizen body, also reports on films and encourages the formation of better-films committees. Several thousand local committees are disseminating their preview information through all possible channels. The National Board is opposed to legal censorship of the screen by any arbitrary group, its own policy being to function simply as a private, nonpartisan, nonsectarian organization.

The review work of the National Board, which is its basic function, is an attempt to reflect the national attitude as to what are the most desirable pictures. The legend, "Passed by the National Board of Review," does not mean that the Board necessarily approves or recommends the picture; it simply means that in the opinion of the reviewing committee, the picture will not have a subversive effect upon large numbers of persons in different sections of the country, or conflict with the obscenity laws.[10]

New York is one of the six states in the country having a censor board which passes on all motion pictures to be shown in the State.[11] The purpose of censorship, as defined in the New York Law, is to exclude films which are sacrilegious, obscene, indecent, immoral, or which tend, in the judgment of the board, to debase or corrupt morals. While it is believed that an increase in the number of states exercising censorship would have distinct disadvantages, it is also believed highly desirable that existing state laws continue to operate, for they make it unnecessary for either the federal government or reform groups to take up censorship. The states exercising censorship at the present time hold liberal attitudes toward

[10] Cf. Wilton A. Barrett, "The National Board of Review of Motion Pictures —How It Works," *The Journal of Educational Sociology*, 10: 177–78, November, 1936.

[11] The other five states are Kansas, Maryland, Ohio, Pennsylvania, and Virginia. Two other states, namely, Massachusetts and Florida, have censorship laws. The Massachusetts board censors Sunday shows only; in Florida the law is inoperative.

the arts, and have been influential in promoting originality and expressiveness in the literary and the artistic aspects of motion picture dramas. Censorship under the federal government would necessarily bring in the influence of the less progressive of the states, and the films would therefore be in danger of becoming the expression of our lowest levels of art. The same danger would arise under the censorship of unimaginative religious groups.

Numerous experimental projects in teaching motion picture appreciation to elementary and, more especially, to high school students have been undertaken. The purpose of these has been to improve the quality of photoplays by raising the standards of taste of young people in the selection of their motion picture entertainment.

During the past few years the National Council of Teachers of English has been engaged in an experimental project to teach high school English classes how to appreciate the best theatrical motion pictures. Although the primary purpose of the project is to determine whether students profit more or less from the screen than from similar material otherwise acquired, the development in the students of the power to evaluate motion pictures is apparent as a valuable by-product.

In this project the procedure has been for the Council's Photoplay Appreciation Committee to choose a few of the best current theatrical motion pictures and to prepare study guides to assist instructors of high school English classes in teaching their students how to appreciate these pictures. The students view the film, fill out questionnaires, and participate in class discussions concerning the screen drama. They are encouraged to form opinions about the picture in regard to type, quality, and social value, and to analyze it with reference to character portrayals, story structure, and artistic arrangement.

The National Committee on Teaching Motion Picture Appreciation, which includes among its members representatives of the National Council of Y.M.C.A., National Board of

Y.W.C.A., National Congress of Parents and Teachers, National Education Association, and the Payne Fund, has launched a similar experiment with provisions for teaching motion picture appreciation to high school students in several states. The object of the experiment is to promote attendance at the best available pictures.

Motion picture appreciation sometimes includes the formation of movie clubs and the publication of photoplay texts[12] and guides. Although most of this work is directed toward high school children, a small amount is being undertaken by various adult education groups. In New York State the following organizations report the use of photoplay appreciation instruction with adult groups: Parents Club of the Jewish Community Building in Buffalo, the Italian Settlement House in Utica, New York State Congress of Parents and Teachers, Haarlem House in New York City, Brooklyn Willoughby House Settlement, Allegany School of Natural History, and through its motion pictures committee, the Council of Churches of Buffalo and Erie County. In some cases the work in appreciation is rather informal in character, being restricted to an extemporaneous discussion of the merits of current films in neighborhood theatres.

## THE NATURE OF SHORT-LENGTH FILMS

While the so-called feature pictures may be said to have genuinely educational aspects, their influence is indirect. The nonfeature, or short-length, pictures are more often directly educational. They include travelogues, films on industrial processes such as the manufacture of fabrics, newspapers, and mechanical devices, and on all sorts of other interesting topics, for example, deep-sea fishing, experimental work in science, and exploration.

[12] Cf. Edgar Dale, *How to Appreciate Motion Pictures*. New York: The Macmillan Company, 1933.

Another type of popular short-length film is the animated cartoon which, through its clever technique, appeals to adults as well as to young people. Unfortunately many of the recent animated cartoons would indicate that the imagination of their producers has run dry. At worst these films portray, under the guise of fun, a ruthless infliction of pain and a general insensitiveness to humane relationships, and, except for the best, are senseless and boring.

Two very important short-length items are the newsreel and the series, March of Time. These, too, though provided primarily for entertainment, are distinctly of educational quality.

Theoretically, newsreels and news articles perform the same general function of disseminating news. As a matter of fact, this function and entertainment constitute two mutually exclusive factors. A representative of the industry explained:

> Here is the problem the newsreels are faced with. They have the prerogatives of a news agency and hence the social obligations of a news disseminating organization. At the same time, their audience will accept their product only if it is entertaining, good theatre. We are driven into the corner by having to combine the two factors, and our policy as worked out has become, roughly, "give as much real news as can really be interestingly told with motion pictures."[13]

Under such a policy the news which motion pictures present is neither comprehensive nor significant. Events that are pleasantly exciting, such as horse races, tennis matches, military maneuvers, and the like, make excellent newsreel material. A peace movement would have no chance whatever if there were not a colorful personality connected with it who could "put across a plain simple idea for peace in such a way as to have a terrific punch behind it."[14] If the theatre managers felt that their function was to educate, they would feel called

[13] W. P. Montague, An address given before the Institute of Human Relations. Reported in *The Springfield Daily Republican*, September 1, 1937.

[14] *Ibid.*

upon to show motion pictures of both prosaic happenings and unpleasant, disturbing ones. But, according to one speaker:

> The theatre managers who have to show our reels do not think their function is to educate. They go to great trouble and expense to set up the desired atmosphere of romance, happiness, music, and soft lights, and along comes a newsreel of the latest race riot or something else that disturbs the audience. And there goes the thousand-dollar effect that the manager has built up, destroyed by a newsreel. . . . The movie audience goes to the theatre to get away from ordinary life and resents being dragged back by any newsreel.[15]

Motion picture producers have given consideration to the production of special newsreels for school use. If such an undertaking should become a reality, the situation described above might be obviated, at least insofar as student audiences are concerned. Yet, with due respect to the intentions of the producers, it is difficult to see how the problems inherent in the theatrical newsreel can be successfully eliminated from the classroom film.

An outstanding recent development in short-length films is the series metioned above known as the March of Time. This comprises motion pictures on many vital scientific, social, political, and other subjects. Not only is the pictorial presentation an important factor in rendering the subject matter clear and interesting, but the organization issuing the series enhances its educational value by certain effective integrating methods. The technique is to take news shots from many sources and then to interweave them in order to make an episode of contemporary life, thus giving events both sequence and significance. Because a wide range of topics is covered in this series, with much background material for each, a great deal of scientific and historical information, as well as many other types, is of necessity introduced. In the nature of things,

[15] W. P. Montague, An address given before the Institute of Public Relations. Reported in *The New York Times*, September 1, 1937.

instruction in science, geography, and history, which the film provides, is more vital and more coherent than it is when these subjects are presented separately, because they are related to actual social movements, forces, and needs. Although the March of Time series undoubtedly has distinct instructional value, it is not shown in schools in competition with its presentation at commercial movie houses, except in the case of some of the old and obsolete sequences.

Some of the outstanding issues of the March of Time are: Britain's Food Defenses, the Dust Bowl, Inside Nazi Germany —1938, Civil Service Reform, various pictures of New Deal projects, such as the CCC, the TVA, the Florida Canal, the Passamaquoddy power development, and the St. Lawrence Seaway, the Ruhr Valley plebiscite, and the emigration of Jews to revitalized Palestine. These films are given documentary value by showing developments in current history against a background of the past. One interesting example of such a continuity deals consecutively with Sino-Japanese relations. The earliest March of Time picture on this subject was released in 1935. It considers Prince Kimochi Saionji, the last of Japan's elder statesmen, and depicts him as a powerful influence in smoothing out the sharp and bitter differences between the factions warring over Japan's national policies. This picture actually predicted an outbreak between the nationalists and the imperialists which, when it occurred a year later, was added as the second chapter of the chronicle. Other chapters have since been added, including much of the story of Chiang's New China movement, and more recently the war sequences. The separate installments combine to form an integrated pictorial history of this tremendously important international problem.

CHAPTER II

# Production, Distribution, and Cost of Nontheatrical Motion Pictures

## TYPES OF PRODUCTION

INDUSTRIAL concerns, government departments, organizations, and associations of many types are the principal producers of nontheatrical motion pictures. While no estimate of the total output is possible, it is generally assumed to be constantly increasing.

### *Industrial Films*

The pioneer nontheatrical films were industrial films. Before other institutions gave serious consideration to the matter, manufacturers of many kinds of products were producing motion pictures on a large scale in order to show their manufacturing processes, interesting historical facts related to their products, and the uses for which their products were intended. One such industrial film, combining all three features, is entitled The Romance of Glass, and was produced by one of the largest manufacturers of preserve jars. This motion picture deals with the discovery of glass, the manufacturing processes involved in the preparation of preserve jars, and finally the most up-to-date and scientifically approved methods of preserving at home. Some of the important industries which have produced films dealing with elements of their business or manufacturing processes are: automobile, electricity, telegraph, telephone, steel, paper, leather, transportation, and aircraft.

*Government Films*

Although a large number of the departments and agencies of the federal government engage in the production of motion picture films, the Department of Agriculture is by far the most active in this group. This department is said to be the largest producer and distributor of educational films in the world. It produces sound, as well as silent films, and in addition, collects films on agricultural subjects distributed by commercial firms. Pictures produced by this Department deal with: field crops, crop diseases, dairying, soil erosion, harvesting methods, cooperative marketing, federal inspection, reforestation, CCC activities, and wild-life conservation. The Bureau of Mines has also developed an extensive motion picture service. Many of its films are made in cooperation with manufacturing concerns. For example, the film entitled Sulphur was made in cooperation with the Texas Gulf Sulphur Company, and that entitled Asbestos, in cooperation with the Johns-Manville Corporation. The Plow That Broke the Plains, a film produced by the Resettlement Administration, has received wide recognition for its general excellence.

The River, produced by the Farm Security Administration in collaboration with other government agencies, creates with remarkable artistic success a panorama of the Mississippi River and its relation to the social and economic life of the country. The unintelligent exploitation of its great valley is dramatized, with the consequent transformation of the River and its tributaries from servants to destroyers of the land. The film emphasizes the government's efforts to restore the River and the valley to their former usefulness to man.

*Miscellaneous Films*

The production of motion picture films by welfare, cultural, and other organizations and associations is almost unlimited: therefore it will not be possible to mention many of the outstanding films in this group. It is important to point out that

very frequently commercial concerns produce films for the use of nonprofit making organizations and associations and that these films are usually listed by the association with its own films. For instance, many of the films on safety listed by the National Safety Council in its film catalog are produced by the Council itself, but many others are contributed by insurance, motor, travel, communication, chemical manufacturing, and railroad companies. Among the films produced by the National Safety Council itself may be mentioned The Handicap, Hindsight versus Foresight, and The Verdict, each of which stresses one or more important safety measures and points out the necessity of using care and caution in a particular activity. A few of the films contributed by commercial companies which the Council lists are: Artificial Respiration, by Loucks and Norling, Inc.; Carbon Monoxide, The Unseen Danger, by the United States Department of the Interior in cooperation with the Hupp Motor Car Corporation; The Cross-Road Puzzle, by the American Automobile Association; and Safety Pays, by the New York Central Lines.

New York City has organized an interesting project on safety education which has as one of its objectives the production of motion pictures. This work was made possible largely by grants of funds from the CWA and WPA, and is carried on by one hundred and fifty workers, including teachers, artists, photographers, and technicians. The motion pictures deal with various types of safety methods and, although suitable for general use, are designed specifically for elementary and secondary schools.

The American Social Hygiene Association was one of the first organizations to launch an educational program through motion pictures. Social hygiene is a subject which naturally lends itself to interpretation through this medium which makes it possible for social hygiene agencies to disseminate to millions of people in all parts of the world information which might not reach them in any other way.

Social hygiene films have been made for various purposes: for public information in support of the social hygiene movement; for education and protection of the individual in personal health; to provide knowledge concerning the facts of biology and reproduction; and as a means of bringing new developments and techniques to the attention of the medical and other professional groups.[1]

One of the first films produced by the Association was Fit to Fight. It was made in 1917 in cooperation with the War Department for men in the camps, and the companion film, The End of the Road, was made in 1918 for women and girls. Between 1917 and 1923, the Association produced twelve films, six of which are still in circulation. One of the most important films among the productions of the American Social Hygiene Association and one which is in demand by schools, parent groups, and similar agencies is a four-reel biological film entitled The Gift of Life. Other films, mainly on venereal diseases, are utilized by the Army, the Navy, and such federal agencies as the CCC camps and the TVA.

The National Tuberculosis Association, the Public Health Service of the United States Treasury Department, many state health departments, life insurance companies, medical schools, and many other health organizations, have prepared numerous motion pictures on the subject of health. Among the outstanding films produced by this group are: Behind the Shadows, a film showing how modern methods are used to combat tuberculosis; Consequences, a popular picture on the early diagnosis of tuberculosis; and Posture, which shows the importance of sitting and standing correctly.

In New York State several health organizations have produced motion pictures. The New York State Department of Health lists among its productions The Story of Marihuana—A Dangerous Narcotic, and Sewage Treatment Plants—New York State Institutions; while the New York Tuberculosis and

[1] Jean B. Pinney, "The Motion Picture in Social Hygiene Education," *The Journal of Educational Sociology*, 10: 157–67, November, 1936.

Health Association, the State Milk Publicity Bureau, and the State Charities Aid Association list a number of films intended for school use. Commercial companies, in particular, the Metropolitan Life Insurance Company, have made available to schools, churches, and other organizations many films on the prevention and treatment of disease and the promotion of health. The following are a few of the important productions in this group: Conquest of Diphtheria, Too Many Pounds, Man Against Microbe, and Working for Dear Life. The last mentioned picture stresses in dramatic form the importance of having a thorough annual physical examination. The others deal for the most part with various phases of health and safety, except Man Against Microbe, which gives the high lights in the fight of science against preventable disease.

Considerable experimentation has been attempted at times in the production of motion pictures for religious purposes. The Religious Motion Picture Foundation makes experimental use of the films which it produces, and studies their distribution and uses by churches for missionary and religious education. Many of the films produced by the Foundation deal with foreign countries and customs. It is felt by members of this organization that such films promote international understanding and friendship.

Other organizations, with films which they have produced, are: Women's Christian Temperance Union, The Beneficent Reprobate; National League for American Citizenship, Why Be An Alien?, Metropolitan Museum of Art, The Temples and Tombs of Ancient Egypt, A Visit to the Armor Galleries, The Pottery Maker, The Making of a Stained Glass Window, and Tapestries and How They Are Made. Indeed, it would be impossible to mention the vast number of films which have been produced from time to time by cultural, welfare, charity, and religious organizations. With significant exceptions, these films have not been as effective as they might have

been, since most of them lack both artistic and technical excellence.

One important use for which films are produced is the development of skills and abilities. Industrial firms produce thousands of such films for the training of their personnel in manufacturing and other processes, in the cultivation of salesmanship, and in the acquisition of skill in the use and demonstration of their products. Noncommercial organizations are beginning to produce films for similar purposes, and in many places motion pictures are being introduced into the training in physical education, speech, and music. At Bryn Mawr College, for instance, students are photographed periodically as they walk, skip, and dance, in an attempt to study any defects of posture that might be revealed through these movements. Motion pictures are also used in connection with the in-service training of public employees.[2]

*Educational Films*

Medical schools are among the outstanding educational institutions producing nonentertainment films. Motion pictures depicting physiological processes, abnormal bodily conditions, operations by master surgeons, and many other related subjects have been produced by medical schools for many years. A new development in this connection is a sound motion picture of the interior of the human body, which was reported by the inventors, Dr. Russell Reynolds, of the Charing Cross Hospital in London, and Dr. W. H. Steward, of Columbia University and the Lenox Hill Hospital in New York City, at the recent International Congress of Radiology held in Chicago.[3] These two scientists announced to the medical gathering that it is possible, by casting high-powered beams of light on the human body and allowing the beams to go

[2] Cf. John Devine, *Films as an Aid in Training Public Employees*. Committee on Public Administration of the Social Science Research Council, New York, 1937.

[3] Reported in *The New York Times*, September 13, 1937.

through the body, to cast shadows upon a screen and to produce moving images of the physiological processes of the body. With the aid of a stethoscope such animated images can then be converted into what might be termed sound movies.

Colleges of agriculture, for example, Iowa State College of Agriculture, have produced films on various topics. An early experiment in historical films was undertaken at Yale University some years ago with the filming of the series, Yale Chronicles of America. The psychology department of Yale has also produced a number of motion pictures on child development. An important program was inaugurated at the University of Chicago in 1932 for the production of films in all the major divisions of its general courses. At the University of Minnesota, film production has assumed important proportions. The schedule to date includes a film for psychology classes treating of feeblemindedness, one for the University at large showing the service of the University to students and to the state, a series of sound films for the speech clinic to assist students in overcoming speech defects, a film on the activities of the nursing school, another on tuberculosis, a series of films on nursing procedures, employed for the past three years by the school of nursing in its teaching and training, others for the women's athletic department on styles and qualities of the dance and on women's sports, one for the zoology department to illustrate varieties of marine animals, a film record of certain neurological cases at the University's hospital, and a film, The Contamination of Drinking Water by Back Siphonage,[4] for the board of health and the hydraulics division.

The production of motion pictures for the use of elementary and secondary schools has not been undertaken on a large scale or in any systematic way by public departments of education. As will be shown later, for many years schools have

[4] Cf. Robert A. Kissack, Jr., "A Visual Education Service at the College Level," *The American School and University*, 9: 291–97, 1937.

made use almost exclusively of the nontheatrical films of the various organizations described above. During more recent years a few motion picture companies have undertaken the task of producing genuinely instructional films for school use. Most of these films are on scientific subjects and they are intended, insofar as possible, to fit in with specific subjects in the curriculum. The preparation of these films is directly supervised by persons eminent in their respective fields. Thus Julian Huxley's genius imparts authenticity, expert arrangement, and sequence to many Gaumont British films on biological subjects. Other scientists of repute assist in a similar way. In the United States, Erpi Classroom Films Inc., perhaps the leading company producing science films for schools, has made many of its sound motion pictures in collaboration with members of the faculties of the University of Chicago, Yale, and other universities. Other American manufacturers use the same general policy of entrusting to expert educational authority the planning of science films and films on other subjects.

There has been very little production of motion pictures dealing with social problems intended strictly for instructional purposes. The reason for this is that the cost of producing such complex films would be out of all proportion to their commercial value if used by institutions alone. The commercial firms, which produce the straight science films, have been reluctant about embarking on programs devoted to films of this character. During 1937, however, Erpi Classroom Films Inc. produced a number of films for use in elementary social science courses. These films, which include such titles as Clothing, Shelter, Conservation, and Animals in Modern Life, are intended to acquaint the student with the history and nature of many of the institutions of modern life. Eastman Kodak Company is now making newsreels for classroom use. Some of the titles are: Japan, Manchukuo, Russia, and The New Turkey. Again, the documentary film deals with social

problems to a certain extent, but neither this type nor those types just mentioned depict the problems that arise in community life. The only films that do this are the feature films produced in Hollywood. Films dealing with social problems in dramatized form, produced specifically for educational purposes, would be desirable, not only for classroom use, but also for use in theatres, in school during lunch hours, in clubs, and in many other places where children might see them at little or no cost. They would counteract the frequently unfortunate influences of a great deal that children see in the regular commercial places of amusement.

One interesting project undertaken within recent years uses old Hollywood feature films after they have been abridged in such a way as to form concise individual case studies of behavior problems. This work is under the supervision of the Committee on Social Values in Motion Pictures, whose chairman is Howard W. LeSourd, dean of the graduate school of Boston University. The venture was launched with the active cooperation of the Motion Picture Producers and Distributors of America, and the films treated are donated by the Hollywood companies. The procedure of the committee has been to select life situations portrayed in commercial photoplays and to take excerpts from the scenes which actually describe these situations. Each situation contains one or more problems in human relations. The efficacy of the films has been tested among high school groups and the experiment is now being carried forward by the Progressive Education Association under the supervision of Alice V. Keliher, with the aid of a grant from the General Education Board. The purpose of these pictures is to produce desirable insights and attitudes in human relations and, although prepared primarily for high school students, they are valuable also for adults, especially in developing understanding among parents of the problems their children meet as they reach adolescence. Some of the films in this series are Fury, Tom Sawyer, and Alice Adams.

Another pioneering development in the use of theatrical films for nontheatrical purposes was launched early in 1937. The members of the Motion Picture Producers and Distributors of America opened their stores of short subjects to an advisory committee of educators, which was invited to view them and to evaluate their worth to education. It is estimated that not less than two thousand of the noncurrent short-subject films can be used as they are, and that another two thousand will be suitable for educational use after they have undergone a little modification. The films in this group include travelogues, episodes from American history, nature study, scientific subjects, physical education, art, and music. The work started May 26, 1937, and by June 23, 538 short subjects had been reviewed.

All of these efforts are commendable, but nevertheless it is desirable to have for educational use films produced for the purpose which deal inspiringly with the problems of life and the world; also films designed to instill in students those elusive elements which form character, citizenship, and goodness. While the subjects to be filmed and the methods of treatment, because they are educational in character, must be selected by educators, or with their aid, the actual filming must be done by our best technicians. At present these are the Hollywood producers. Their long experience in translating ideas dealing with human situations and with complex matters of environment into concrete form equips them with the necessary technique required in the production of the school films under consideration. Thus far the Hollywood producers have not paid much attention to motion pictures for schools. On the contrary, they have quite consistently restricted their production to theatre films. It is very possible that the reluctance they have displayed in entering the field of nontheatrical movies has been due to a lack of assurance that their films would be used by the schools. If the educators of the country were to approach these producers with a plan providing for

cooperative production of the right type of school motion pictures, coupled with the assurance that they would endorse and use their products, provided of course that the latter meet all requirements, without doubt a satisfactory response would result. With proper backing and sponsorship the producers of entertainment films would have no reason to be indifferent to the production of educational motion pictures. The project could be worked out by the producing company on the usual business basis with the close collaboration of educational experts, who could pass not only upon the subjects but also upon the scenarios and the actual film treatments of the separate ideas. The plan would call for a committee of educators, including authorities on the philosophy of education, psychologists, teachers, and representatives of state and city departments of education. There would have to be, in addition, special committees of experts in the various special fields. The general committee could decide on the subjects for which it would be desirable to have motion pictures, and the special committees could have as their task the selection of actual topics for filming.

This suggestion is not based on an entirely new idea. Very recently one of the large entertainment motion picture companies agreed to produce, in collaboration with medical experts, a series of health films for school use. The beginning of the type of undertaking here contemplated has therefore been made. It is now a matter of extending the enterprise to include other school subjects, especially social studies.

Another type would deal with great social and government institutions. The purpose of the film would be to make the vast implications of such institutions understandable and to give them their full meaning. One outstanding example would be a film on international law. Such a film might present the background and the history of the development of international law, its functions, the difficulties involved in its enforcement, its relation to national law, and its operation in

peace and in international crises and war. The motion picture could clarify the meaning of this difficult concept admirably and thus aid not only in an understanding of the subject itself, but also in a comprehension of the many crucial situations in world affairs.

Another example of the use of the motion picture for instruction in social sciences has been pointed out by Mary Field:

> Films that would be useful to the teacher of citizenship would be those showing government activities. We are badly in need of such films to show the British constitution and to explain pictorially or diagrammatically our system of central and local government, taxation and justice. The Farm Factory, made as a technical experiment, has proved how easily the intricate organization of economic life can be explained by the moving picture.[5]

Again, dramatizations of history, biography, and of the great literature of the world should be left to professional talent. These fields, which are covered to some extent for entertainment, could be explored more fully for educational purposes. In this connection it might be pointed out that in many instances films dealing with background material for such works might be even more valuable educationally than films based on content. Such films should serve to acquaint students with relevant facts and to stimulate them to read the books for themselves. For example, instead of showing a class a motion picture of Thomas Hardy's *Woodlanders*, it might be better to show a short reel dealing with the life and personality of the author, the Wessex country of the time in which the Hardy stories take place, the picturesque occupations of the various nineteenth century Wessex regions, such as furze cutting, reddling, and, in particular, spar-making, which is the occupation of some of the central characters in the volume under consideration, and perhaps the home and community life of the woodland folk. Such a film might arouse the interest

[5] Mary Field, "The Use of Films for the Teaching of Citizenship," *The Citizen*, November 5, 1937. London: Association for Education in Citizenship.

of the class not only in one novel, but also in all of Hardy's works, and even in the general history of the period to which the tales refer. The lively interest thus stirred would probably lead to independent study and foster the spirit of amateur research.

Still another type of motion picture best suited to Hollywood production would be that dealing with such inventions as the calendar, weights and measures, time measurements, numbers, and the like. Films giving historical perspective to these and similar subjects would open the way to students for completely new and real appreciations of such inventions and of the past from which they were inherited. The American Council on Education in its preparation of attractive reading material on these subjects is helping students along this line. Several pamphlets entitled "Achievements of Civilization" are already in circulation and others will be added to the list. These subjects lend themselves particularly to film treatment and should, as photoplays, have a tremendous appeal for school audiences.

Another possible way of getting educational films of social and historical nature is to have a privately endowed organization undertake such production,[6] using technicians trained in the commercial field who would work in cooperation with educational experts. Under such a plan wide experimentation in presentation should be possible.

The Museum of Modern Art Film Library, which is making a collection of all significant films produced since the beginning of film history, has recently undertaken a study of film technique based upon an analysis of the most successful motion pictures. The aim of the project is to discover those factors

[6] Such a plan has been announced by the University of Minnesota, which has been given a grant by the General Education Board to produce films which "will integrate the vocational orientation and social-civic areas" and "interest all audiences, not just the specialist." Reported in *The New York Times*, December 19, 1937.

which make a motion picture successful, that is, which make it express what it was intended to express. The results of such a study would greatly assist producers in creating educational motion pictures of the type under consideration.

## DISTRIBUTION OF FILMS

### *For General Educational Purposes*

A recent showing of Damaged Lives in an Albany motion picture house by the Syphilis Control Division of the New York State Department of Health is an important instance of the use of the nontheatrical film in a commercial motion picture theatre. Similar showings have occurred from time to time in other places, and trailers of nontheatrical motion pictures are shown even more frequently with the regular theatrical program. But, by and large, the distribution of nontheatrical motion pictures through theatrical film circuits is negligible. This is regrettable because, from the point of view of reaching large numbers of people, this would be the ideal medium for distributing distinctly educational films. Since, however, distribution of this character is out of the question for the present, other means must be devised.

In England, the General Post Office Film Unit, which produces documentary films dealing with the work of government and the economic life of England, has devised a number of interesting ways of reaching the public. It both contributes films to film libraries that service various organizations owning projectors, and lends films to such organizations from its own library. Occasionally the members of the Film Unit arrange film seasons of from two to twelve weeks in the central halls of different towns and show the films themselves. The performances are provided free, or for a nominal admission charge. The Film Unit also operates one-night stands for the same purpose. One representative of the organization explained, "Night after night we move from hall to hall providing lec-

tures, film, apparatus, and operators."[7] At times the Film Unit succeeds in selling films to the commercial theatres, not only in England, but in other countries as well. During the summer of 1937 a centrally located New York City theatre was running a Unit film, The Song of Ceylon, as a part of its double-feature program.

In the United States, nontheatrical films are usually distributed through lending libraries of commercial companies, government agencies, museums, universities, school systems, and religious, civic, and welfare organizations. The collections of most of these agencies are made up of motion picture prints gathered from a number of sources. In many cases the service is rendered free of charge. In others there is a rental fee, varying from about fifty cents to two dollars per film. A few organizations charge rentals only for those films which they have purchased; all films donated by industrial or other firms are loaned free.

The federal government operates the outstanding government film-lending libraries. The production activities of the various departments have already been mentioned. Each department possesses, in addition to the films which it produces, many others contributed by practically every type of producer. At present the department lending libraries are independent of one another and each distributes films on its own special subjects. The service is free but the borrower is obliged to defray all shipping expenses.

One important government agency which circulates motion picture films in New York State is the New York State Department of Health. This department has in circulation thirty-nine motion pictures, eleven trailers, and four talking slide films. The films are sent to groups with varying interests, among which are parent teacher associations, service clubs, church organizations, colleges, and nursing associations. The

[7] John Grierson, "Films in the Public Service," *Public Administration*, IV: 369, London, October, 1936.

films are also shown at many general public meetings arranged by health officers and public health workers. The Department has found that both silent and sound films are suitable for its work, but, in the words of one of its officers, "sound pictures are preferable as they are more up to date and prove to be a better drawing card when shown at general public meetings."

The Motion Picture Bureau of the National Council of the Y.M.C.A. is one of the largest distributors of nontheatrical motion picture films in the country. All of its films are obtained from outside sources, the great majority having been contributed by manufacturing, travel, and other commercial firms. The Bureau has both free and rental films. The free films, for the most part, are donations from commercial enterprises. The donors in each case pay the Motion Picture Bureau a stipulated fee for the privilege of having their films distributed. The rental rates for silent films are fifty cents per reel, and for sound films one dollar twenty-five cents per reel. The rental films include cartoons, comedies, features, sports, nature study, science, travel, patriotic subjects, and many others. The free films are mostly industrial, scenic, scientific. Many were contributed by the United States Navy, for example, Sky Fleets of the Navy, The Gray Armada, An Egyptian Adventure, and Building Bluejackets.

The American Museum of Natural History lends films free of charge to schools, churches, organizations, and informal private gatherings. Practically all of its films have been presented to the museum as gifts. The following are among the important contributors: United States Bureau of Mines, the Canadian government, General Electric Company, United Fruit Company, Great Atlantic and Pacific Tea Company, Cunard Line, and United States Rubber Company.

It would be impossible to list here all of the distributing agencies in this country. The *Educational Film Catalog*, published by the H. W. Wilson Company, and *1000 and One—A Bluebook of Non-Theatrical Films*, issued annually by *Educational*

*Screen*, are the two most inclusive and extensively used catalogues of nontheatrical films. These catalogues include in their listings the better-known companies and organizations dealing in films used for educational purposes. The following are among the important noncommercial distributors of films in New York State: American Museum of Natural History, New York State Department of Health, New York Zoological Park, Board of Foreign Missions of the Presbyterian Church, Metropolitan Museum of Art, Y.M.C.A. and the departments of education of New York City, Rochester, and Buffalo.

Libraries thus far have not looked upon films as proper material for their files. The New York State Library, for example, is not taking films seriously. The New York City Public Library has not as yet undertaken the task of collecting films for references or for distribution. The latter institution, however, has a large collection of books, catalogues, pamphlets, and periodicals on motion pictures. The large centralized collection of the New York Public Library is intended to meet the needs of the motion picture public. Members of the Theatre Collection hope to include all books, stills, pressbooks, and scrapbooks in this depository in order to make its service as complete as possible. The Theatre Collection staff serve as liaison officers between the industry and the various divisions of the library. Many libraries display shelves of books which relate to outstanding current motion picture showings, and others circulate bookmarks presented by the picture houses with lists of pertinent books selected by the library printed on them. Efforts of this character are worth while, but in the future libraries, at least all great reference libraries, will need to be equipped with films for the purpose of illustrating and supplementing the printed documents.

In this connection mention should be made of the contribution of the film to education as a mechanical device which promotes efficient preservation of printed materials. It is now possible to photograph printed matter on film in microscopic

size and project it on a screen for reading. These films, which may be substituted for newspapers, documents, and other bulky materials, are valuable because they afford a saving in library space. A document requiring 713 pages in book form can be reproduced in microfilm, that is, film with microscopic lettering, on forty-eight feet of 16-mm. film. These were the dimensions in pages and film of a volume of autobiographies, entitled *Inside Out.*[8] Using the same ratio as a basis, it is interesting to note the economy in space which microfilm makes possible for such a bulky document as the *Encyclopedia Britannica.* Photographed, this would make about 1,535 feet of 16-mm. film, which, when reeled would be about the size of an ordinary theatrical film. The whole *Encyclopedia Britannica* in microfilm would be no larger than an apple pie! Undoubtedly the use of microfilm would relieve the problem of adequate space in many libraries.

*For School Purposes*

Schools, colleges, and universities depend to a large extent upon the various distributing agencies mentioned above for their teaching films. Even those institutions that own their film libraries have occasion at times to rent or borrow films from these other sources. Within recent years, however, there has been a gradual upward trend in the establishment of film libraries by educational organizations.

Many of the larger universities and schools of higher education, particularly schools of medicine and technology, have film libraries for the use of university classes and medical, scientific, and other groups. The smaller universities and colleges, on the other hand, have not made great strides in this respect.

Public schools in some instances are served by state and city visual education agencies. Fannie Dunn and Etta Schneider, of Teachers College, Columbia University, state in a series of

[8] Stuart E. Bates, *Inside Out.* New York: Sheridan House, 1937.

articles published in *Educational Screen*, that twenty-six states reported they have departments of visual education and that twenty-one of these distribute motion picture films.[9] The majority of these film-lending libraries distribute both 16-mm. and 35-mm. silent films, while only five of them circulate sound films. The Bureau of Radio and Visual Aids of the New York State Education Department does not as yet include motion picture films in its library as part of its lending service to schools.

Many city systems of education throughout the country have film distributing centers for the service of their local schools. New York City, Rochester, and Buffalo are among the cities in New York State that have well-developed services of this kind. The library in Rochester contains 950 reels of film, and the library in Buffalo, 846. In each city the schools obtain their motion picture films almost exclusively from the library. In New York City individual schools also borrow from the libraries of the American Museum of Natural History, the Y.M.C.A., and the Metropolitan Museum of Art; from various steamship, manufacturing, and other companies; and from the United States and Canadian governments.

An interesting development in the distribution of films for school purposes is the so-called cooperative plan, originated at the University of Illinois under the direction of Russell T. Gregg. This plan works on the general principle of pooling resources and permitting joint privileges to all affiliated members. As worked out under the original Illinois system, each member is required to deposit a 16-mm. film in the visual aids service library and to pay a five dollar yearly service fee to cover the cost of inspecting, repairing, and packing the materials. This entitles the school to thirty-six bookings of 16-mm. silent films classified as distinctly instructional; an unlimited number of 16-mm. silent films classified as scenic or

[9] Fannie Dunn and Etta Schneider, "Activities of State Visual Education Agencies in the United States," *Educational Screen*, XIV, April, May, and June, 1935.

industrial; and an unlimited number of sets of glass slides. Inasmuch as the average life of a film when it is booked once a week is approximately two years, schools are asked to deposit a film with twenty-four dollars every two years. If a film costs less than twenty-four dollars, the difference must be made up in cash. Thus, for each cooperating school the biennial cost is thirty-four dollars.

It is not always clear to those interested in the system why the various schools are required to deposit films when it would involve less administrative routine to assess them thirty-four dollars for the same biennial service they receive as members of the 16-mm. silent film library. The reason given is that the cooperative idea seems to have certain psychological advantages over the flat rental plan.

> The idea of buying only one film and of being therefore privileged to use many, is one that schoolboard members can readily understand. When, furthermore, a school administrator opens the catalog of films and finds the names of neighboring schools listed as cooperating members, he wants to see his own included. Each cooperating school, finally, knows that it has a part interest in the central library, a feeling that would not exist if the school secured the service by paying a stipulated yearly fee.[10]

Cooperative plans are being tried out in several states besides Illinois, and two states, Kansas and Colorado, distribute a joint catalogue listing the films in their university libraries and making the materials of each available, not only to their own schools, but also to the schools of neighboring states. The outstanding undertaking of this kind in New York State is in Syracuse where Dr. Gregg has started a cooperative library at the University for the service of the Syracuse public schools and for the schools of neighboring cities. Several other New York districts are experimenting along similar lines.

No national scheme for distribution of films among public schools has yet been developed. Certainly at this stage in the

[10] Russell T. Gregg, "Experience with a State Co-operative Film Library," *The Educational Screen*, XV: February, 1936.

use of films for school purposes, state plans need to be strengthened.[11] Once such plans are well operated in each state throughout the country, there will be opportunities for the state departments to assist each other in securing materials. The question as to whether it is desirable to have a central bureau of distribution will undoubtedly come up for consideration in the near future.

## COST OF EDUCATIONAL MOTION PICTURES

As a later chapter will show, the use of motion pictures by schools is not as extensive as might have been anticipated. One reason for this is the cost of motion pictures. Indeed, many believe that prohibitive cost alone has been responsible for the retarded development of motion pictures in educational fields.

One serious expenditure in connection with motion pictures for schools is the initial cost of the projector. That this has been an important factor in the slow development of the use of motion pictures in education is brought out by the fact that the retardation persisted in spite of a steady accumulation of available free films. Unquestionably the fact that most of these free films were only indirectly educational accounts for the reluctance on the part of school officials to take advantage of them. Nevertheless, it would be difficult to maintain that the application of motion pictures to education in the face of such a wealth of free film material would have been equally slow if the cost of projection had been less.

At the present time, the cost for a 16-mm. silent projector, suitable for school use, is about one hundred and fifty dollars. A few machines on the market cost less, some as low as sixty dollars. These cheaper machines, however, are suitable for use only in very small classrooms or more particularly in the home. The cost of a sound-on-film projector is about

[11] See Chapter IV.

four hundred and fifty dollars.[12] Additional expenditure is involved in connection with necessary screens, dark shades, and proper electrification of projection rooms, although in many instances these last-mentioned items are already included in the school equipment as part of the lantern-slide service. The serious cost element, however, is of course in connection with the films themselves. When it is borne in mind that a 400-foot reel of 16-mm. silent motion pictures, with a running time of about fifteen minutes, costs from fifteen dollars to twenty-five dollars, and a similar length talking picture costs from twenty dollars to fifty dollars, the immensity of an outlay for a truly adequate motion picture program will be readily appreciated. To be sure, as the market for films of this type increases, the manufacturers through mass production may find it possible to lower the prices, but, at the present time, education by means of the motion picture must be considered a costly school item.

### RELATION OF THE VALUE OF FILMS TO THEIR COST

The matter for consideration here is whether the value received from the use of films justifies the cost. If what is claimed for the motion picture later in this report is accepted, then obviously the price factor will not appear disproportionate but will resolve itself into the question as to whether returns on investments are as great or greater than returns on expenditures for comparable types of teaching aids. If it is granted that in special fields films teach more efficiently, more rapidly, and more permanently than do other teaching aids, and that in particular they teach, as no other device can, some of the difficult but highly important subjects which deal with vast patterns of activity and far-reaching interrelationships, then the motion picture is not expensive.

Attempts are frequently made to compare costs of teaching tools in specific subjects of instruction. For the most part such

[12] It is reported that a satisfactory sound projector has now been placed on the market for about two hundred dollars.

comparisons are valueless. For example, good laboratory equipment required to demonstrate the molecular theory of matter is inexpensive. The cost of the film on this subject when compared with the cost of the laboratory equipment may appear expensive. But the question is, should the two be thus weighed? Both sets of devices are valuable in that they can demonstrate the basic ideas of the theory in question. The film, however, by means of its moving diagrams, will bring out more details and will show, in addition, through its use of ultramicrography, the thermal agitation of a colloid. The explanation of atmospheric pressure entails, ordinarily, use of an air pump, a Torricelian tube, a barometer, and a pair of Magdeburg hemispheres. A film entitled Atmospheric Pressure[13] shows in detail, not only all the experiments provided for by the above equipment, but many others, including a demonstration of the principle of operating a vacuum cleaner, a recording of the pressure vibrations in a valley and on a near-by mountain top, and the original Magdeburg experiment where two teams of large horses were employed in an attempt to separate the hemispheres after the air had been drawn from the apparatus.

The cost of still pictures and of lantern slides which portray distant places is not excessive. Such visual aids, however, while valuable, do not transport the child to the scene depicted. Motion pictures do. The writer watched many children while observing travel films, and noted their keen appreciation, delight, and the complete unawareness of their spatial separation from the real scene. It would have been a challenging task to compute in terms of dollars and cents the value of an experience recently enjoyed by a large seventh grade class in Rochester while viewing a film on Egyptian excavations. Each pupil felt himself to be present at the scene of action; he mingled with the barefooted natives as they dug up, examined, and discarded endless basketfuls of dry, treasureless soil and

[13] Atmospheric Pressure, Eastman Kodak Company, New York City.

shared in the thrill that attended finally the unearthing of a tomb. These pupils, removed from the actual experience by time and space, appeared to be assisting with the opening up of sarcophagi, the lifting of mummies, and the extraordinarily careful handling of fragile wrappings as they were unwound and ironed. The factors in experiences of this nature are so vast and incalculable that all attempts at comprehensive comparisons and computations are futile.

Certain practical considerations also have bearing on the cost of films. One consideration is the effect that their use might have on class size, and indirectly, on the size of the teaching personnel. As is pointed out later, the film is best adapted to mass instruction. This fact has implications for school finances in that the unit cost of education is seriously affected by increases and decreases in class size. In other words, if it can be established that the size of classes may be increased through the use of films without in any way lessening the effectiveness of the teaching, then it is reasonable to suppose that an extensive application of films to the teaching process will inevitably result in substantial financial economies. It is not possible to measure now the extent of the possible savings. If, however, classes of one hundred and fifty can be handled with the use of the film, and better results achieved than with classes of thirty, it is clear that the salary cost of teaching that part of the subject matter which is susceptible to film treatment can be reduced by 80 per cent. This is a factor of no little financial importance when it is realized that the greatest immediate use of the film will probably be made in the natural and social sciences, generally conceded as among the more expensive subjects in the present curriculum.[14]

It should be pointed out in passing that thus far no schools have made attempts to reduce their teaching staffs and to substitute motion pictures; in every instance where films have

[14] Alonza G. Grace and G. A. Moe, *State Aid and School Costs.* Regents' Inquiry, 1938.

been introduced the purpose has been to enrich the program. The situation was undoubtedly the same when books were first used in classroom teaching. Books were expensive and scarce in those early days and it is reasonable to suppose that they served to adorn the school rather than to effect changes in the teaching process. Indeed, recent studies show that even at the present time educational institutions do not always make an intelligent use of books and libraries as ways of reducing teaching staffs and salary costs. In view of such facts, the hope of realizing specific, measurable economies through the use of educational films lies in the future.

Another practical consideration bearing on the cost of films is the manner in which they are cared for and used. If properly treated, films last almost indefinitely, and can be screened repeatedly. Seven-year-old films are still in circulation in Buffalo and each of these films has to its credit innumerable showings. Many of the films in the Rochester library have been sent out as often as one hundred times, and some even more often, and it is estimated that at least seventy pupils have seen the films each time they were borrowed.

## COST OF FILM PROGRAM TO THE STATE

It is difficult to suggest what might constitute an adequate financial outlay for a state film program. Much depends on the scope and nature of the service contemplated. Costs in one state do not throw much light on this matter in others because of variations in range of service, administrative procedures, and source of material. For example, at the University of Minnesota visual education service includes: the centralization of authority of all university-owned visual aids, equipment, and materials; the responsibility for the care and maintenance of all projection equipment; the storage and handling of university-owned film; the maintenance and handling of all public address systems; the provision not only of projection but also of recording services, and production of motion pictures;

the operation of a weekly newsreel theatre; and conducting a motion picture appreciation course, a photography course, and a course in visual aids in teaching. Though a formidable array even as outlined, these functions convey an even truer idea of the size of the service when the scope of the film production enterprise is borne in mind. It has been shown that the department produces a great number of films for many divergent and exacting needs. Again, an analysis of projection activities of the enterprise indicates the impressive dimensions of the department. It is reported that often as many as twenty-two classroom showings of motion pictures per day—sometimes five or six of them simultaneously—are handled by the projection crew.[15]

The numerous functions of the Minnesota service, which incidentally operates on a cost-plus-business basis, may be contrasted with the much simpler activities of such organizations as the Rochester, Buffalo, Syracuse, and Cleveland visual education departments, where no services are undertaken other than loaning films and projectors. The outlay in Rochester for motion picture equipment is $35,000, of which $28,000 is for films and $7,000 for projectors. Similar investments obtain in a few other cities where comparable film service is undertaken, but for the most part the allotment for such programs is much smaller. State programs designed to meet the needs of public schools present such varied contrasts, both as regards scope of service and cost, that figures are probably of little value. Cost of motion picture instruction, in short, is conditioned by gradations in requirement and service and therefore does not follow fixed rules.

[15] Cf. Robert A. Kissack, Jr., "A Visual Education Service at the College Level," *The American School and University*, 9: 291–97, 1937.

CHAPTER III

# Adaptation of Motion Pictures to Education

## EXPERIMENTAL STUDIES

For many years films were used by schools without any attempt to determine their precise educational value. For the most part the films used were on isolated, extracurricular subjects and were introduced into the school program partly as additional illustrative material and partly as entertainment. Gradually, as the more strictly instructional films were introduced, efforts were made to test them for their educational value. Thus, during the past twenty-five years, or longer, a number of experiments have been performed by experts in psychology and education and by others, with the idea of demonstrating the efficacy of the motion picture as an instrument of instruction. In most of these experiments the procedure has been to compare classes in which the films were a regular part of the instruction with classes which have not had the advantage of this medium. Geography, science, history, music, and nature study have been popular subjects for experimentation. All of these studies were measured by means of oral or written tests. The results of the experiments[1] afford some

[1] Cf. Ben D. Wood and Frank N. Freeman, *Motion Pictures in the Classroom.* Boston: Houghton Mifflin Co., 1929.

Daniel C. Knowlton and J. Warren Tilton, *Motion Pictures in History Teaching.* New Haven: Yale University Press, 1929.

V. C. Arnspiger, *Measuring the Effectiveness of Sound Pictures as Teaching Aids.* New York: Bureau of Publications, Columbia University, 1933.

P. J. Rulon, *The Sound Motion Picture in Science Teaching.* Cambridge, Mass.

interesting conclusions, the one conclusion common to all experiments being that teaching with films is useful, the gain in learning being estimated at from 20 to 27 per cent. An almost equally general conclusion is that the power of retention is significantly augmented through the use of motion pictures. Here the gains have been estimated to be as high as 38 per cent. Still another advantage inherent in the technique of instruction through motion pictures, as demonstrated by experiment, is the stimulation of the pupils' interest.

While the above conclusions are interesting and valuable to the extent that they establish the fact that motion pictures do facilitate learning, they are far from adequate as answers to the question of just what use schools should make of motion pictures. They fail, for example, to answer such questions as the following: What types of films should be used? With what units of subject matter should they deal? At what points in the course of study should they be introduced? To what extent should they supplement or displace other techniques of instruction? What effect do they have upon the grade placement of school subjects?

Although no extensive experimental work has been undertaken to solve many of the pedagogical problems indicated above, a few informal tests have attempted to do more than merely prove that the motion picture can improve learning in certain fields better than the usual technique of teaching. One of these tests, made under the auspices of Erpi Classroom Films Inc., was designed to find whether pupils in the elementary grades could be taught difficult concepts ordinarily incomprehensible to children of elementary school age. The experi-

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Harvard University Press, 1933.

John Elmore Hansen, "The Effect of Educational Motion Pictures Upon the Retention of Informal Learning," *Journal of Experimental Education,* II: 1, September, 1933.

B. A. Aughinbaugh, "Visual Instruction Study," *Better Schools Bulletin,* 9: 4, May, 1929. State Department of Education, Columbus, Ohio.

ment[2] consists of showing these young children educational talking pictures dealing with biological subjects which were produced for intermediate grades. The results of the test showed that these young children were able to learn from a motion picture on plant growth such concepts as germination, pollination, and seed dispersal, and other such ideas as the life cycles of the frog and the butterfly, the purpose of the giraffe's long neck, the difference in appearance and life habits of such animals as the lion, tiger, wolf-dog, elephant, and polar bear. This experiment, too informally conducted to be significant in its special findings, is important in that it indicates where the problem of future investigation is to be found.

A few experiments have dealt with features other than learning and retention. The objective of some of these[3] was to determine the relative effectiveness of sound motion pictures as against silent motion pictures as a means for conveying concrete information and for stimulating and maintaining interest. As might be anticipated, the results here are not so uniform as in the former experiments. In some instances the sound film has been found to be superior and in others, the silent film; while still other studies show that there is not much difference between the two. An outstanding recent study[4] makes the special claim for the sound film that the verbal explanation in

[2] Laura K. Eads, "Overcoming Limitations to Learning in the Primary Grades Through Educational Talking Pictures." New York: Erpi Classroom Films Inc., 1934. Mimeographed.

[3] Cf. Clarence C. Clark, "Sound Motion Pictures as an Aid in Classroom Teaching," *School Review*, XL: 669–81, November, 1932.

W. F. Einbecker, "Comparison of Verbal Accompaniments to Films," *School Review*, XLI: 185–92, March, 1933.

Leon H. Westfall, *A Study of Verbal Accompaniments to Educational Motion Pictures.* New York: Bureau of Publications, Teachers College, Columbia University, 1934.

John Elmore Hansen, "The Verbal Accompaniment of the Film—The Recorded Voice vs. the Classroom Teacher," *Journal of Experimental Education*, V: 1, September, 1936.

[4] Leon H. Westfall, *op. cit.*

such a film is more closely synchronized with the pictorial presentation than is possible with silent films. Those whose findings favor the silent motion picture base their conclusions on experiments in which regular classroom teachers using silent films had spent time in preparation of the film lesson and had rehearsed their lectures during trial projections. In the Hansen experiment, for example, twenty-four hours before he was to present the film to his group,[5] the teacher was given a typed lecture which had been prepared to use with the film. Three teachers reported reading the typed explanation once with the film, and two reading it twice with the film, before presenting it to their respective groups. The question which naturally presents itself is whether teachers in actual practice should be expected to spend the same amount of time for preparation as the experimental staff who helped in the study under consideration.

Another interesting experiment deals with the relation of instruction by means of films to the size of school classes.[6] In this study the achievements of small groups instructed without the use of films were compared with the achievements of large groups who had been taught with films. The results showed that large groups (one hundred fifty students each) using the films under the direction of one teacher learned as much as, if not more than, the smaller groups (forty students each) not using the films. Many are of the opinion that this arrangement, if adopted, will increase the efficiency of classroom management. It will provide the teachers with the time necessary to administer effectively to the needs of individual students, which is not practicable with present methods of teaching small student groups. This plan has been applied in Cleveland as part of the experimental procedure of the Jones Rotary System of Instruction. This system, of which one purpose is to

[5] John Elmore Hansen, *op. cit.*

[6] A. J. Stoddard, "Will Sound Pictures Tend to Increase Class Size?" *The Nations Schools*, 14: 16–20, July, 1934.

provide effective visual instruction, will be discussed in a later section of this report.

## USE OF FILMS IN EDUCATION

### *Adult Education*

Very little can be learned of the efficacy of the motion picture as a teaching medium from the uses to which it has been put in actual practice. For example, the many adult groups connected with churches, lodges, clubs, camps, and industrial concerns which use films extensively in connection with their activities do not have records indicating the value of the films employed. To be sure, in many instances, especially when the occasion on which the motion picture film is shown is wholly informal, as is true of the showings at the Museum of Natural History and the Metropolitan Museum of Art, any attempt to measure the teaching value of motion pictures in a scientific manner would not be feasible. From such educational ventures it is safe to assume that the films are valuable else the public would not attend the motion picture showings and the organizations providing them would not continue exhibiting them year after year. The Metropolitan Museum of Art, for example, has for years presented every week three evening motion picture programs which are open to the general public. The attendance at these illustrated lectures has been between seventy-five and one hundred forty-five. The most helpful indication of the teaching value of these projects among adult groups comes from the nature of the uses to which the films are put. A few of these uses as applied in New York State are as follows:

The Schenectady Council on Adult Education reports the use of motion pictures in connection with night school and immigrant education, especially with training in citizenship.

The Workers Education Center, of New York City, states that films have been used in connection with its Thursday

evening forums relating to housing, milk, and consumers' problems. At various times during the year, Recreation Room and Settlement, another New York City organization, shows films on housing, health, travel, and current events.

The Y.M.C.A. and the Y.W.C.A. use films in some of their courses. At one branch of the Y.M.C.A. a motion picture program is given continuously in the main corridor on such subjects as travel, industry, and science. This plan provides informal instruction to the members of the organization in spare moments. This same organization arranges motion picture programs on home economics and house furnishing for its "married couple" gatherings.

The colleges of agriculture and home economics at Cornell University, through their extension courses and county agents, use many motion picture films on agricultural and home management subjects with adult groups in various parts of the State.

While these experiments have value, they are not sufficiently conclusive to assist in adapting motion pictures to school instruction. Perhaps the most significant suggestion comes from the uses of the film in the development of various activities and skills. Through the use of slow motion and rapid motion photography and close-ups, intricate movements and processes are more easily analyzable, and the presentation of complete imagery, including a succession of movements, facilitates imitation. The Henry Street Settlement in New York City makes use of motion pictures in this manner in training nurses in public health work and in training mothers in the care of babies.

*Graded Schools*

It is difficult to estimate the extent to which films are actually used in the schools because many of the various distribution agencies do not keep records of the circulation of their films according to the individual borrower, nor do the schools

themselves keep such records. School systems and individual schools obtain films independently from such sources as museums, steamship companies, manufacturing firms, the Y.M.C.A., and the government, as well as from state and city visual education centers. The size and the indeterminate source of supply preclude estimates relating to the existent volume of film distribution. To make an estimate based on the amount of projection equipment owned is equally futile. A recent survey of school equipment shows that in January, 1936, a total of 10,097 motion picture projectors were owned by American elementary and secondary schools.[7] The figures by themselves do not indicate to what extent this equipment is used. To begin with, of this total, 3,565 were 35-mm. silent projectors and therefore supposedly reserved exclusively for auditorium use, but actually they were not in use, owing to the fact that no 35-mm. silent films are being manufactured at the present time and old 35-mm. silent films are no longer fit for screening.

A few examples, however, may serve to indicate the practices in particular places. Rochester's present average daily distribution is fifty-eight, which is the highest in the history of the visual education department. The following figures show the growth of film usage in Buffalo.

NUMBER OF MOTION PICTURE FILMS CIRCULATED IN BUFFALO, 1929–1936

| *Size of Film* | *1929–30* | *1930–1* | *1931–2* | *1932–3* | *1933–4* | *1934–5* | *1935–6* |
|---|---|---|---|---|---|---|---|
| 35-mm. | 2,454 | 2,117 | 1,328 | 1,198 | 1,014 | 707 | 316 |
| 16-mm. | 0 | 1,561 | 5,617 | 7,758 | 8,148 | 12,544 | 14,605 |

The extent to which motion pictures are used in New York schools, which is believed to be greater at present than in previous years, is indicated by the following table, which was taken from a report by Dr. Ward C. Bowen, Chief of the Bureau of Radio and Visual Aids. The data are taken from

[7] Cline M. Koon, and Allen W. Noble, *National Visual Education Directory*. Washington, D.C.: American Council on Education, 1936.

the returns to a questionnaire regarding films and equipment in use in 1936.[8]

NUMBER OF FILMS AND PROJECTORS OWNED, BORROWED, OR RENTED, WITH PRICE OF RENTAL AND NUMBER OF SHOWINGS, NEW YORK SCHOOLS

| | *Size of Film* | | | |
|---|---|---|---|---|
| | *16-mm.* | | *35-mm.* | |
| *Projectors Owned* | *Silent* | *Sound* | *Silent* | *Sound* |
| New York City | 504 | 4 | 151 | 4 |
| Others | 339 | 21 | 140 | 14 |
| Total | 843 | 25 | 291 | 18 |
| *Films Owned* | | | | |
| New York City | 2,700 | 00 | 00 | 00 |
| Others | 2,314 | 59 | 218 | 00 |
| Total | 5,014 | 59 | 218 | 00 |
| *Free Films Borrowed* | | | | |
| New York City | 50 | 00 | 00 | 00 |
| Others | 5,779 | 176 | 978 | 201 |
| Total | 5,829 | 176 | 978 | 201 |
| *Films Rented* | | | | |
| New York City | 00 | 00 | 00 | 00 |
| Others | 3,323 | 425 | 181 | 125 |
| Total rented and borrowed | 9,152 | 601 | 1,159 | 326 |
| *Amount Paid for Rental of Films* | | | | |
| New York City | None | | | |
| Others | $6,215.50 | | | |
| *Number of Showings* | *Classroom* | | *Assembly* | |
| New York City | 450,000 | | 100 | |
| Others | 44,178 | | 3,405 | |
| Total | 494,178 | | 3,505 | |

While the figures on the use of motion pictures by schools are fragmentary, the information concerning the results of use is even less definite. Although the growing interest in motion

[8] Ward C. Bowen, *The Use of the Motion Picture in Education.* Albany: Bureau of Radio and Visual Aids, State Education Department, 1936. Mimeographed.

pictures that teachers evince might be interpreted as evidence of the increasing usefulness of films, no adequate information is available which would indicate the extent of the usefulness or the best methods of using them. The upper grades of the elementary schools make the greatest use of films at the present time and, as far as it is possible to determine, are obtaining satisfactory results. A large number of films used in these grades are on scientific subjects, travel, and industrial processes. The development of films for primary grades has been slow, but progress is being shown in the choice of subject matter for children of this age.

High schools, on the whole, fail to make much use of pictures. Although directors of visual instruction interpret this indifference as independence of spirit or a reluctance to accept suggestions from central authorities, the real reason seems to be that there are only a few 16-mm. silent films suitable for high school use and, inasmuch as sound projectors are scarce in the high schools as elsewhere, schools cannot take advantage of the few excellent sound films which are now available, especially in the field of physical and biological science. The most conspicuous gap in the supply of school films is caused by the absence of films for the social sciences. Practically no films for this field are available in this country. It is true that the matter is receiving some attention but thus far production in this field, as a preceding chapter shows, is negligible.

## DIFFICULTIES IN USING FILMS

Successful adaptation of the motion picture to school use depends upon skillful management of the equipment. This presents a number of difficulties. To begin with, the handling of the projection apparatus is not an easy task, especially in the presence of a class of children who are ready to derive amusement from clumsy efforts. Thus far in schools satisfactory performance from the mechanical point of view is the exception. The introduction of a film into the lesson is

generally attended by confusion and nervousness on the part of the teacher, by repeated failure in starting the projector, and by awkward attempts to darken the classroom. The difficulty is due, of course, to lack of familiarity and practice in handling motion picture equipment, and the remedy lies in acquiring the necessary mechanical skill.

More serious difficulties arise, however, in connection with the pedagogical factors inherent in the situation. Teachers have not as yet acquired the skill of teaching with films. In many instances a film is shown without any attempt to make it contribute specifically to a given subject of study. This is due in great part to the fact that films do not meet teaching needs and their subject matter does not correlate with specific school subjects. The result in many cases is that the use of films is artificial and only slightly to the point. The difficulty, however, does not lie wholly here. Lack of experience on the part of the teacher contributes profoundly to the inept handling of film material. Uncertain as to what is expected of the film, teachers frequently rely upon it for the complete job of instruction. Instead of regarding the film as a tool, they employ it as they would a substitute teacher. For genuine educational service, films should be used to demonstrate, clarify, and exemplify the ideas and problems which, under the teacher's direction, the class is actively exploring. It is imperative, therefore, that the teacher use the film with the purposes of the lesson in mind. It is essential for him to know clearly not only what the class is expected to get from a film, but also what significance the ideas thus derived have for the lesson.

Two considerations are vital in connection with the use of motion pictures by schools. One is that teachers must receive adequate training in handling projection equipment and in actually teaching with films. This subject will be discussed in Chapter IV. The other consideration is that motion pictures intended for schools must be closely integrated with the vari-

ous courses of study. This is not a simple matter but one that presents numerous and intricate problems.

## MOTION PICTURES AND CURRICULUM

The tremendous amount to be learned today makes the selection of instructional materials by educators exceedingly difficult. Great care has to be taken to make sure that all the subjects introduced into the curriculum deserve the time apportioned to them. Equally great care is necessary in the placement of subjects according to grades and according to their relationships to each other. These points are of utmost importance in a consideration of the motion picture as a teaching aid. It is not enough that films should be educational in a broad, general sense. From one point of view they are all educational; they all have something to tell or some information to impart. The important thing to consider is whether they impart the correct information at the correct time and in the correct way. It must be confessed that in the past, and to a great extent at present, instruction by means of the motion picture has amounted to nothing more than exposure to unorganized and uncorrelated information. Such a procedure is not teaching in any strict sense of the word. New items of information should relate to and extend the experience of the learner, otherwise learning and genuine intellectual growth are impossible. Films, in short, to have real educational value, must perform clearly defined functions.

At present some of the science films have in part the qualifications under discussion. For the most part, however, available educational films and their presentation fall far short of desirable requirements. The burden of production of thoroughly satisfactory teaching films is the concern of both the producers of films and the educators. The producers must rely upon those who use the films for guidance in their preparation. As far as one can envisage the situation, it would seem that for some time to come production and application will

have to proceed experimentally. On the one hand, producers will have to fill the needs of schools as they understand them; on the other, school people will have to watch carefully to see in what respects the pictures fall short of expectation, and in what respects they are particularly effective. It is upon the suggestions and recommendations of the latter group that the perfection of educational motion pictures will ultimately depend.

Thus far our main emphasis has been on the adequacy of films in their relation to existing curriculums. It may be that the use of the motion picture cannot be extended. Yet just as the printing press revolutionized not only the technique of education, but knowledge itself, so the motion picture, when perfected, may affect profoundly the present techniques and sequence of instruction and the very content of education. As films become closely integrated with the learning material, changes may be necessitated in the whole teaching procedure. School programs do undergo, slowly and intermittently, but inevitably, unending series of changes brought about by the discovery of new worlds of information. It does not seem too visionary to suppose that, at least in certain of its phases, curriculum reconstruction may be based upon benefits derived from the motion picture.

## FUNCTIONS OF MOTION PICTURES

The precise uses of educational films will have to be discovered through a long process of experimentation and actual experience, drawing upon the cooperative efforts of teachers, psychologists, technical experts, and educational theorists. Nevertheless it is possible to obtain at least a few general ideas of the value of the motion picture for education from a consideration of its peculiar qualities.

### *Presents Movement and Growth*

Motion pictures are pictures creating the illusion of activity, process, growth. It was precisely for the purpose of picturing

movement, movement as it actually takes place in experience, that the cinema was invented.

In the field of education there are innumerable occasions when the aim of instruction is to set forth the way in which things behave or perform. The action of a dynamo, of a steam engine, of a hydraulic press, or of a cotton gin are some of the ordinary mechanical processes that pupils are required to understand. Activities connected with farming, fishing, mining, with the preparation of commercial products, with the construction of buildings, dams, bridges, with the locomotion of animals, with the modes of behavior of foreign peoples, with the physiological processes of the body, and with the movements of the celestial spheres are also topics with which the school aims to familiarize students. Verbal explanations of these matters, no matter how well set forth, always depend for their success upon the power of the learner to construct, in turn, correct images. Whenever the student is unable to envisage the situation, he either fails to construct the concept at all or else constructs an erroneous one. Still pictures and diagrams, though helpful in suggesting action, are nevertheless inadequate in that they cannot furnish an actual portrayal. Teachers have often remarked how difficult it is to lead children to understand the causes of volcanoes and volcanism with its dikes, sills, laccoliths, and metamorphism. They point out, however, that a classroom motion picture with its drawings and photography has explained these things so clearly that even elementary school children are able to grasp the fundamental ideas of this phenomenon.

Perhaps the most remarkable contribution of the motion picture is in fields where the movements are either too rapid or too slow for the human eye to perceive. Here the contribution is unique since that which is normally outside the realm of human perception is rendered perceptible. Everyone is familiar with the way in which slow-motion photography converts the imperceptible rapid actions of athletes into

observable phenomena. The camera slows down the action so that each separate motion, the succession of positions, the distribution of body weight, and the expenditure of energy are clearly revealed. Similarly, rapidly moving machines, internal bodily processes, the motions of birds and of insects in flight, and innumerable other rapidly moving processes may be slowed down for examination and analysis.

Even more striking, however, are the uses to which rapid-motion or time-lapse photography is being put, with the portrayal of living growth as perhaps the most outstanding single function. The motion picture can record plant or animal growth through timed cameras and reproduce in a few minutes what in reality occurs over much longer periods of time. Thus the life cycle of the lupin which takes several weeks in actual life may be viewed through a motion picture in less than fifteen minutes. In addition to shortening the life span, the motion picture also renders the very essence of growth perceptible. In other words, it not merely provides a series of pictures representing the actual condition of the plant at different intervals, but reproduces the continuous natural rhythm and motion of plant growth. The same is true for animal growth, and for such other natural, but otherwise imperceptible, movements as erosion and cloud and crystal formation. Very often it is difficult to secure specimens, to provide enough microscopes to serve the needs of large classes, and to secure their proper adjustments so that pupils can see what they are expected to see. With the aid of microscopy, the motions of cellular developments and of micro-organisms may be studied with ease and efficiency through the motion picture. Such an arrangement permits the entire class to look through a microscope at the same time. Experts, working in their laboratories, with adequate materials and with all the time needed, may photograph many types of interesting scientific materials and thus enable innumerable classes to observe them with a minimum of time and effort.

There are already in existence a great number of films which have been made to show the phenomena of living things. It is possible to see in detail, through photomicrography, the living reproductive cells, the act of fertilization, and the embryonic development of the sea urchin.[9] The film dealing with the early development of this marine organism portrays vividly the processes of segmentation, the differentiation of cell substance into various body tissues, and the formation of organs and the body cavity. Such a film may easily constitute a basic study in embryology. In another film the chlorophyll particles of a leaf cell[10] are shown to vibrate in the activity known as photosynthesis, and cleverly drawn animated diagrams depict the action of the guard cells in regulating the respiratory and transpiratory functions of the leaf. Another film is designed, by means of carefully photographed close-ups, to disclose the subtly intricate activities of seeds in their struggle for dispersal.

Thus we see that the activities of plants, animals, or men are being captured and portrayed by observant and painstaking photographers in the laboratory and out of doors, near at hand and in distant lands and seas. The motion picture is an unexcelled medium for presenting facts and promoting the comprehension of certain aspects of physical life. Moreover, when these animated photographs are artistically arranged, they achieve a special capacity to stimulate imagination and to hold attention.

The educational benefits to be derived from this function of the motion picture have not been estimated. Some of the uses relating to an understanding of motion have already been touched on. Other important uses are connected with the development of bodily actions and skills, with presenting the motion pictures as patterns to be imitated. The wide

[9] The Sea Urchin, produced by Gaumont British Picture Corporation of America, New York City.

[10] The Leaf, produced by Erpi Classroom Films, Inc., New York City.

use to which films of this character have already been put indicates that this is one of the outstanding contributions of the motion picture to education.

*Presents Total Situations*

Although the obvious function of the motion picture is to portray motion, its power to present things and situations in their totality is perhaps no less important. The ability to create a lifelike portrayal is achieved through continuity in the shifting of scenes, and in the presentation of slight but relevant motions. For example, an animated photograph of even a quiet or static scene is more like the original than is a still photograph. Without question the motion picture is supreme in representing the motion in an animal's way of walking, fighting, feeding its young, capturing its prey, and performing services for man. Yet it is equally supreme in presenting the animal at rest. Tiny eye, ear, and other facial movements, which the motion picture recreates, transform the animated photograph into an appealing reality capable of arresting and sustaining interest, whereas the single and fixed expression of the still photograph easily loses its hold on the beholder's attention. Again, an excellent still picture of a mountain provides a beautiful likeness, but a moving picture, affording a continuous succession of scenes from different angles, provides a more genuine image from which a more comprehensive conception might be formed.

This attribute of the motion picture is important in the introduction of new topics and in the initiation of new units of instruction. A presentation of new material in this form will convey the basic ideas quickly and clearly and will be sure to engage the attention of the class as a whole.

It is not intended here to convey the idea that motion pictures, even when accompanied by captions or recorded voice, can alone perform the task of introducing new subjects. They must be supplemented by the teacher's explanations

and textbooks, both of which contribute to one instructional process. It is the guiding idea in the teacher's mind that directs the whole learning activity. The importance of motion pictures in this connection lies in their power to communicate experience more fully, completely, and really and thus to assist language in acquiring meaning succinctly.

*Acquaints Students with Distant Lands*

Every pictorial presentation of material is an instance of space annihilation. This aspect of the motion picture becomes emphasized in the portrayal of foreign landscapes, buildings, peoples, and customs. Animated photographs of distant places rival first-hand observation in the creation of concrete ideas and images. Still pictures have long served our schools in suggesting the way primitive races fashion tools, sow, harvest, employ animals, worship, and dance. These pictures have also aided in the construction of ideas concerning European capitals, Asiatic rice fields, African diamond mines, distant vineyards, coffee plantations, and uninhabited jungles. For constructing these ideas, and thousands of similar ones, the motion picture is without parallel. Ordinary pictures cannot take the place of actual experience; a still view of a prairie cannot convey the monotony, the rolling immensity or the wind-swept character of such a land. A still view can only vaguely create some of these impressions: it cannot inform the mind of the plain's essential nature. This the motion picture is almost able to do. That motion pictures are satisfactory substitutes for travel in distant places is indicated by the fact that commercial travelogues are becoming increasingly popular in motion picture theatres.

*Presents Abstract Ideas*

The presentation of abstract ideas is one of the most difficult and challenging tasks with which teachers are faced. Such ideas are acquired only through complicated processes

of reflective thinking, and are very often beyond the ability of a large portion of the student body to grasp. That the motion picture can make an invaluable contribution here may be inferred from such uses of pictorial animation as that found in Max Born's *The Restless Universe*. The author of this book on modern science has contrived a moving diagram to illustrate some of his most difficult concepts, for example, the motion of the electron in the hydrogen atom. Series of diagrams are printed on the outer margins of the book and the reader produces the illusion of motion by flicking the pages in either direction from center to cover. Born refers to each series of diagrams as a "film" and states in his prefatory notes that he will endeavor to tell the reader something about the restless universe and let him *see for himself* something of its inner workings.[11] Animated pictures, cartoons, and diagrams produced on celluloid are likewise so constructed that the most intricate and complicated processes are made easily comprehensible. Films have been made to portray such generalized concepts as gravitation, capillary attraction, vision, time, harmonic motion, surface tension, acoustics, and the Einstein theory. The successful films on these subjects, dealing almost entirely in abstract reasoning, are capable of giving meaning to the nonmaterial reality under consideration. Abstract relationships not existing in time and space may be presented by means of moving diagrams as though possessing extension and durability.

The motion picture endows abstract ideas pertaining to social relationships with concrete meaning equally well. Purely verbal presentations of economic, political, and social changes, of struggles for human ideals, of the interaction of events and forces, frequently fail to create in the mind of the audience a tangible or convincing idea of the principles involved. The motion picture, on the other hand, in that it

[11] Max Born, *The Restless Universe*. New York: Harper & Bros., 1936. Italics have been inserted.

presents material in a dramatized form, and gives within a brief time the concepts which make up the broader patterns, is capable of stimulating the mind to create meaningful impressions and comprehensive ideas. Otis Ferguson says in this connection:

> . . . I think most of us are agreed by now that the difference between the bound book and the experience is precisely the vital stuff the theatre is made of, that even the simplest story can be so presented by actors and direction and living background that the emotional experiences of those who follow could not be duplicated by anything short of some great long novel.[12]

It is desirable at this point to call attention to the danger of perverting the motion picture to the uses of private propaganda. Because of its ability to relate vividly and forcefully, the motion picture lends itself particularly to this abuse. The immense range of discursive power made possible by film technique, coupled with unlimited choice in regard to subject, point of view and emphasis, and with the scope for aesthetic and emotional appeal, make it a tremendously powerful instrument in the molding of thought and opinion.

This quality of the film is brought out in one of the Payne Fund Studies reported by Thurstone and Peterson.[13] The authors state that the dominant attitudes of high school bodies toward other races were shifted by means of motion pictures. Indifference changed to friendliness, and slight unfriendliness to distinct dislike. In various European countries the proponents of the documentary film, which is receiving so much attention at the present time, are fully aware of the power of the film in this respect:

> Let cinema attempt the dramatization of the living scene and the living theme, springing from the living present instead of from the synthetic fabrication of the studio. Let cinema attempt film interpretations of modern

[12] Otis Ferguson, "Through the Looking Glass," *The New Republic*, LXXXXI: 343, October 27, 1937.

[13] L. L. Thurstone, and Ruth C. Peterson, *Motion Pictures and the Social Attitudes of Children*. New York: The Macmillan Company, 1933.

problems and events, of things as they really are to-day, and by so doing perform a definite function. Let cinema recognize the existence of real men and women, real things and real issues, and by so doing offer to State, Industry, Commerce, to public and private organizations of all kinds, a method of communication and propaganda to project not just personal opinions but arguments for a world of common interest.[14]

It is apparent that the advocates of the documentary film are not only aware of its inherent capacity for propagandistic use, but welcome the film precisely for this reason. Their central theory being that all education is in a very real sense propaganda, this group favors the idea of injecting propaganda of high quality, as exemplified by these films, into the public mind as an antidote against corrupt and subversive doctrines.

Propagandistic films have been developed considerably in Russia and Germany. Potemkin and Kameradschaft are noteworthy examples. In Great Britain documentary films are intended, on the whole, to enlarge the public's social conscience, to create new standards of culture, to stir mental apathies, and to build new understandings. Among the best-known British documentary films is The Face of Britain, which is concerned with the natural and scientific planning of Britain with reference to the power of coal and electricity. The Song of Ceylon, one of the most beautiful of these productions, shows the influence of Western civilization on the national life of Ceylon, while the film entitled Rising Tide depicts the interdependence of Empire trade. Other outstanding foreign documentary films are: Granton Trawler, Weather Forecast, Coal Face, Cargo from Jamaica, Que Viva Mexico, Nanook, Man of Aran, and Housing Problems. The documentary film has just begun to receive serious attention in the United States. Among our noteworthy productions in this class thus far are: March of Time, The Spanish Earth, The Plow That Broke the Plains, and The River.

[14] Paul Rotha, *Documentary Film*, pages 66–67. London: Faber and Faber, Ltd., 1936.

*Records Rare Experiences*

There are certain valuable experiences in which only a few privileged persons may participate. The cinema, however, in a manner makes these available to everyone. It can record accurately and truthfully the findings of a single observer for all contemporary mankind and for posterity. This particular value of the motion picture has already been amply demonstrated in certain fields. For example, exploration into unimaginable regions of the earth's surface, such as the icy expanses of the polar deserts, has been recorded by the cinema for present and future enlightenment and enjoyment. Again, in the field of medicine, the manifestations of many rare cases, the work of world-famous surgeons, and the procedures and findings of difficult experiments have been preserved by the camera for medical students of all countries of present and future generations. A striking illustration of this fact was the presentation at the American Museum of Natural History of a motion picture depicting the action of the brain. The film, prepared by scientists at the University of Chicago, demonstrates how, by means of extraordinarily sensitive instruments, capable of measuring potentials of a millionth of a volt, a stimulant to a nerve may develop physiological changes associated with electrical potentials in the brain of a living animal. Archeological expeditions, solar and lunar eclipses and other rare celestial phenomena, exhibitions of skill by gifted athletes, and such unusual terrestrial disturbances as volcanic eruptions, typhoons, and floods may also be photographed for universal participation. In nature study, the motion picture has likewise proved to be of inestimable value in capturing for general observation the life habits of rare creatures and rare episodes in the lives of familiar animals. For example, a few years ago an English ornithologist succeeded in obtaining a motion picture of the Norfolk bittern in the act of cleaning itself from slime and dirt after a fishing expedition. The film shows the bird fishing,

feeding its young, and then cleaning its matted feathers with a powder, which comes from their roots and is supposed to consist of decayed feathers, and finally waterproofing its feathers by rubbing them against the oil gland. Until this picture was recorded, the life habits of the Norfolk bittern were not well known. In particular, the nature of the activities connected with its toilet had never been ascertained.

*Stimulates Self-Expression*

Impression is the basis of expression. The greater number of ideas and images a mind receives the more adequately will it be equipped and the more vitally will it be stimulated to create ideas and images of its own. The motion picture is an excellent medium for furnishing raw material to the mind, not only because it is rich in content, but also because the ideas and impressions that it produces, even when accompanied by sound, are not often associated with set verbal forms. For instance, the student, while becoming filled with vivid and interesting impressions, is at the same time left free to construct his own verbal expressions. The motion picture forces him to invent his own vocabulary; it does not encourage him to rely exclusively on the vocabulary of his teacher or textbook. Einbecker says concerning this:

> The main function of films is to make instruction concrete in order to avoid verbalism. On the other hand, since most thinking is done with the aid of words, one of the main functions of education is to supply verbal symbols for concrete experiences. The ultimate aim of this goal of education is the development of the ability to carry on abstract thinking. From this standpoint, either verbalism without experience or experience without vocabulary means an incomplete education. . . . [15]

The reports of teachers confirm the writer's impression that after viewing a motion picture children are eager to express themselves orally or on paper. Experience also shows

[15] William Francis Einbecker, "Comparison of Verbal Accompaniments to Films," *School Review*, XLI: 192, March, 1933.

that the forms of expression used in compositions relating to photoplays are more original and more interesting than the expressions used in compositions written in response to a verbal presentation by the teacher. Because the motion picture contributes to life experiences, develops appreciation, and elicits independent mental effort, it offers a stimulus to originality and creates desires and abilities for artistic and intellectual expression.

## CORRELATION WITH MODERN METHODS

Among the methods stressed by recent philosophies of education are class discussion and pupil activity, firsthand experience, individual or small-group instruction, self-education, integration of subject matter, and the introduction of learning material at strategic points in pupil preparedness. Is the motion picture in accord with these dominant pedagogical conceptions?

### *Class Discussion and Pupil Activity*

At first glance the motion picture appears to function along traditional lines. It has at times even been likened to the textbook-lecture type of instruction because of the fact that its mode of operation is to present prearranged learning material to passive recipients. Those who have no faith in the educational value of the motion picture see only the limitations of this one factor, contending that such a device cannot arouse or carry on pupil activity, that it encourages inertness in pupils, and that it yields vast quantities of predigested information which, because of the manner of its reception, cannot conceivably become assimilated.

Obviously the mode of functioning of the motion picture is mainly expository. Yet this fact alone should not create serious objections to the use of films. Every method of instruction, even the most progressive, must include a certain amount of exposition in its procedure, and therefore inclusion of the

motion picture in this part of school work cannot justly be regarded as inappropriate. Instead of hindering pupil activity and class discussion, the motion picture actually facilitates these methods of teaching because of its unique adaptability. In that motion pictures furnish the learner's mind with funds of vivid experience, they serve as stimuli to independent evaluation and analysis. It is of utmost importance, of course, to use only the right number of films. Good judgment on the part of the teacher must come into play at this point and determine the way the films are actually to be used. The motion picture cannot, by and of itself, produce the desired intellectual activities. Its function is to expound, relate, point; the rest is with the teacher. It is the teacher who must see to it that his pupils' minds are judging and comparing and being challenged during the viewing of a film, and his is the task of calling attention to the general while they behold the particular, and to emphasize causes while they are absorbed in effects.

*Firsthand Experience*

A revolutionary development in educational theory during recent years has been the emergence of the "experience" theory of learning. Too familiar to require restatement, this theory may be briefly described as having for its fundamental thesis the idea that participation in firsthand experience, as contrasted with vicarious experience obtained through language, constitutes a most important factor in the process of education. The basic principle on which this theory is built is that intimate contact with and immersion in life not only serves to produce direct knowledge, but also constitutes the method whereby words are given meaning.

The acquisition of definiteness and of consistency of meanings is derived primarily from practical activities. By rolling an object, the child makes its roundness appreciable; by bouncing it, he singles out its elasticity; by lifting it, he makes weight its conspicuous factor. Not through the senses,

but by means of the reaction, the responsive adjustment, is an impression given a character marked off from qualities that call out unlike reactions.[16]

Words can detach and preserve a meaning only when the meaning has been first involved in our own direct intercourse with things. To attempt to give a meaning through a word alone without any dealings with a thing is to deprive the word of intelligible signification; against this attempt, a tendency only too prevalent in education, reformers have protested.[17]

The importance of experience being accepted as fundamental—experience in the broadest sense, including physical activities as well as thought—makes it quite natural that stress should be laid on acting, living, working, and doing rather than upon book learning or learning through the use of words in general. As a result, there has developed a gradual emphasis in educational practice on the utilization of play and occupational activities, and on the participation in experiences which have not been removed from their authentic environment. At the present time more than ever before, as a part of their school work, children are fashioning tools, working in gardens, planting trees, constructing mechanical devices and visiting docks, factories, slums, coal mines, and distant places. They are, in short, learning through living rather than merely through reading or listening to spoken words.

It was pointed out earlier that the motion picture presents experiences in such realistic form that it often seems to have the value of the actual experience. Should we, therefore, recommend that motion picture presentations replace a great deal of this firsthand experience? The answer to such a question is not easy to find. It is difficult to determine whether the images, let us say, of cathedrals, market places, or windmills obtained firsthand on a sightseeing trip are essentially different from those derived from a motion picture on the

[16] John Dewey, *How We Think*, page 142. New York: The Macmillan Company, 1933.

[17] *Ibid.*, pages 236–37.

same subjects. To put it another way, do we know, for example, that the ordinary traveler, stopping briefly at treaty ports, gets a more comprehensive impression of China than the average audience viewing such a film as The Good Earth? There are differences, of course, in the two types of impressions, and these have to do largely with notions of space conveyed through movement. But the question is, Is the difference between the two impressions so marked as to affect education in different ways? Let us take as an example these two ways of experiencing a certain cathedral. The motion picture gives in rapid succession a variety of views, producing on the onlooker's mind a fairly concrete idea of the building. Let us imagine a person looking at the same building in actual life. Are the impressions implanted on his mind substantially different from those in the mind of the person viewing the film? It would seem that, outside of the difference produced in the real situation by such accompanying sensory experiences as sounds, odors, temperature, and the like, the chief difference between the two experiences lies in the opportunity to assimilate, which is produced chiefly through motion and position. The person actually experiencing the situation will have the sensation of *standing before* the cathedral, he will have the sensation of *looking around* one of its columns, the sensation of *traversing* a certain distance between its arches; he will be constantly *looking up* or *down* at things, *walking around* certain parts, perhaps even *touching* and *handling* some of them. Although the motion picture attempts to indicate these spatial relationships, it does not provide occasion to employ the same bodily movements.

The contrast between the two types of experience is even more clearly brought out in situations which involve a greater amount of physical motion. For example, a motion picture depicting most vividly a forest fire will not afford the beholder the same experience as will the real forest fire at close range. The tremendous difference between the two sets of impressions

will not be brought out so much by the mere presence or absence of the smell of burning timber, the mere presence or absence of pain due to heat, and the like, but rather by the difference in bodily responses. The motion picture is viewed sitting down and hence limits bodily movement. The predominating impressions derived from actually experiencing the fire are produced by such factors as the impulse to run away, the struggle to find the right direction for escape, and the successive movements in dodging from one dangerous position to another, and by many others. If the above analysis is correct, then it is safe to say that, owing chiefly to limited motor responses in the film experience, the motion picture is not a perfect substitute for experience. To put it another way, motion pictures, real as they are, fall far short of actual experience because they cannot yield activities which develop the power to realize meaning fully.

Two considerations, however, deserve mention. One is that life does not afford unlimited opportunities to everyone for varied, significant experiences, nor is it desirable to have all of them. A great deal of experience has to be acquired indirectly, chiefly through reading and spoken language. Since language is such an important bearer of meaning, it is unquestionably the most excellent vehicle we have for extending the range of personal experiences. It is not only true that there is no substitute for language in extending experience, but language makes the very understanding of experience possible. The mastery of language, particularly of written language, is therefore of prime importance in the acquisition of experience.

It is important, however, to remember that words do not of themselves have meaning. They acquire meaning by use in contexts of overt action and by indirect association with activities already known. Once more, therefore, we come back to the realization that experience is the source of language and the mainspring of further experience. The motion

picture, because it is so admirably fitted to reproduce experience, becomes the most satisfactory substitute for all those important experiences which can never be realized firsthand in actual life.

The other consideration is that the motion picture may be used to great advantage in supplementing and enhancing real experience. Granted that there is no substitute for such an experience as fashioning a stool, there are nonetheless opportunities for increasing the meaning of this activity. A film depicting the work of a master craftsman, or one illustrating the styles and uses of stools in foreign countries, cannot fail to bring guidance, pleasure, and inspiration to the actual experience. Similarly, a trip to the zoo affords tremendous educational benefit, for even confinement cannot rob the living of its unique appeal. Yet here again previous movie experiences will prove invaluable. Glimpses of wild life, that is, life as it is actually lived by the inhabitants of wild places, caught by hidden and camouflaged cameras, will round out the meaning of any visit to a zoo. The giraffe as seen behind cage bars is one thing; running, another. When one considers the average person's opportunity for seeing giraffes run, and realizes that such instances might be multiplied infinitely, one begins to appreciate the potential value of the motion picture.

It may be pointed out in passing that the validity of the arguments here presented in favor of the motion picture as a factor in furnishing experience does not depend upon the validity of the experience school of thought. Whether or not one accepts the Dewey philosophy, one may still value experience as a phase of learning and the motion picture as an efficient means of obtaining experience.

*Individual and Small-Group Instruction*

The most economical use of the film is with classes. Here again film usage and educational philosophy seem to have

divergent goals. Film usage appears to favor mass education, while modern theory, growing rapidly in acceptance, espouses the doctrine of individual instruction. The divergence is again largely superficial. Film usage *per se* is mass instruction, but inasmuch as it is limited to exposition, it need not interfere with arrangements applicable to drill work, recitation, discussion, and other pupil activities. Provided that good vision for all is insured there is no reason why spectator groups should not be large. Experience indicates that far from being undesirable, such arrangements are highly desirable. Stoddard's findings presented earlier in this chapter support this point of view. The Cleveland experiment furnishes even stronger argument for the system. Under this plan, when applied to science and history courses at the high school level, students participate as large groups and as small groups in rotation. The large group meetings are devoted to the viewing of motion picture films, lantern slides, and laboratory demonstrations; the small group meetings are reserved exclusively for discussion, supervised study, individual experiments, and other such activities.

Although much is left to be desired for the system in its actual operation, as witnessed by the writer during a recent visit to Cleveland schools, the theory itself is sound and one which, if properly applied, seems bound to yield beneficial results. Among the advantages claimed for the method are that the demonstrations and other features of the auditorium periods can be placed in charge of special teachers; the classroom teacher actually meets the pupils a fewer number of periods and hence has more time for preparation of lessons; closer contact is maintained between teachers and pupils in the small-group conferences, including the periods for supervised study; monotony is avoided; on the material side, there is less wear and tear on projectors, films, and other equipment, and fewer articles are needed for individual laboratory work.

*Self-Education*

The modern trend in education is toward self-instruction. Instead of attempting to pour ready-made information into pupils' heads, the instructor endeavors to stimulate the learners to pursue their own efforts at scholarship. The teacher's function, in short, is not to supply information but rather to provide sound techniques by means of which information may be sought independently.

At first glance the motion picture technique does not appear to be in accord with instruction in its true rôle of stimulant; rather, it appears to encourage the acquisition of ready-made information. This appearance, however, is misleading. Undeniably the motion picture offers in finished form a great deal that is ready-made, but it also arouses curiosity for many other things that are not ready-made, and thus serves as a stimulus to further study. By increasing the children's store of meanings, motion pictures furnish the incentive to delve into new realms of experience and to widen intellectual horizons. It is precisely to arouse interest, and thus indirectly to heighten scholarship and to utilize leisure for cultural growth, that the motion picture is best used.

*Broad Units of Subject Matter*

As against traditional departmentalization, the movement to-day is in the direction of subject matter unification. In place of disassociated recitations in reading, spelling, geography, and grammar, there are being substituted lessons derived from a group of subjects which are related through their common elements. The film creates no difficulty here; it, more than any other medium, assists in the task of subject integration. An excellent movie drama, besides possessing literary and artistic elements, can abound in materials having geographic significance, historical importance, and interests relating to customs, manners, and architecture, and at the

same time contain problems of sociology, law, and economics. Similarly films dealing with scientific subjects very frequently introduce other elements and thus round out the ideas under consideration and endow them with a definite sense of reality. A fifth grade class in Buffalo, while viewing a film on the production of iron and steel, eagerly learned the names and locations of several American mining, smelting, manufacturing, and shipping centers made vivid on the map by means of cleverly drawn animated cartoons. The teacher later disclosed the fact that the assignment for her class in geography was Europe.

*Child-Centered Education*

A strong movement, going counter to the traditional theory that learning consists in the mastery of subject matter, has been gaining support in recent years. Its basic principle is that the one important factor in education is the child; introduction of learning material is conditioned by the child's readiness to receive it.

The problem of discovering the opportune moment when information can be utilized resolves itself into the task of creating in children the necessary interest in a given quantity of learning material. It is believed that a child is prepared for the reception of a given set of facts or ideas if these facts and ideas succeed in stirring his interest. The acceptance of this viewpoint has led educators to believe that until the child's interest in any given thing is secured, it is futile to coerce him to learn. This in turn has resulted in the notion that learning material, if it is to have value, must be made as attractive and interesting as possible. Dewey and others have criticized this philosophy of education, pointing out that in its way it is as one-sided and unsound as the older theory of compulsory attention and mastery. In their view, the advocates of both theories err in assuming that the object or idea to be mastered is external to the self.

Because the object or end is assumed to be outside self it has to be *made* interesting, to be surrounded with artificial stimuli and with fictitious inducement to attention. Or, because the object lies outside the sphere of self, the sheer power of "will," the putting forth of effort without interest, has to be appealed to. The genuine principle of interest is the principle of the recognized identity of the fact to be learned or the action proposed with the growing self; that it lies in the direction of the agent's own growth, and is, therefore, imperiously demanded, if the agent is to be himself. Let this condition of identification once be secured, and we have neither to appeal to sheer strength of will, nor to occupy ourselves with making things interesting.[18]

The above quotation points the way to a solution of the problem of timing the presentation of learning material. Children are growing points constantly carried forward by ideas and activities which are inseparably bound up with their growth. The main responsibility is to discover their potential behavior patterns, their tendencies in action. Dewey suggests that a rich environment will best direct the operation of the child's urgent needs and powers. We must supply to the mind "that which it needs in order to *be* mind." A rich environment will include a great variety of opportunities for social, intellectual, artistic, and physical activities. The learning materials, instead of being unattractive subjects tricked out in spurious coverings to capture attention, will be natural and genuine phases of reality. Whatever portions of such an environment possess meaning for the child will by that fact become objects of interest. The motion picture, since it presents a rich and varied environment and since its subject matter is connected, complete, and meaningful, may be regarded as a powerful aid in identifying the child with the facts, which is, after all, the learning process.

[18] John Dewey, *Interest and Effort in Education*, page 7. Boston: Houghton Mifflin Company, 1913.

CHAPTER IV

# Role of the State in an Educational Motion Picture Program

THE final administration of a motion picture program rests with the individual localities, yet there are certain exceedingly important functions which devolve upon the state which must be given primary consideration in a discussion of this subject.

## DISSEMINATION OF INFORMATION

First and foremost a state department of education should constitute an information bureau for motion pictures for the schools. Information about motion pictures is so fragmentary and scattered that unless some central agency undertakes the task of gathering and making it available to those who seek it, it will continue to be inadequately utilized and the best use of the motion picture will not be realized. The need for the collection and dissemination of information related to films, equipment, and teaching techniques is so great that its importance cannot be overstated. Strangely enough, state departments of education are not, as a rule, aware of the importance of this function. Where film libraries do exist, concern over routine matters involved in the circulation of films absorbs the director's attention; where no library exists, the whole subject is frequently ignored. Directors in situations of the latter type seem to feel that the absence of a film library exempts them from all responsibility connected with the problem of utilizing motion pictures in education.

While there is no limit to the amount of information that the state can give, a few specific instances where its services would be of inestimable value should be mentioned.

A state department should be able to answer questions from inquiring schools in regard to the nature, quality, source, cost, and value of specific films. The Wilson *Educational Film Catalog* and the Visual Instruction Department of the American Council on Education are prepared to provide assistance to the department along this line. A particularly important task in this connection is that of evaluating existing films. The American Council on Education has formulated plans for a project, the object of which is to evaluate all known educational films for the benefit of schools throughout the country. Even though the American Council on Education does perform this service, the separate state departments of education may, in the end, be obliged to evaluate pictures as a necessary supplement to the latter's achievements. Such work may be accomplished by the state department in several ways: the division director and his staff may be called upon to evaluate the films, the task can be relegated to a committee or, finally, the director, instead of appointing himself the sole judge, can call upon the teachers for their services. From the point of view of efficiency, the last procedure offers the greatest promise of success. It is inconceivable that a director of visual instruction could, by himself, or even with the aid of a committee of principals and superintendents, determine the merits of thousands of motion pictures. The judgments of teachers are indispensable in such an undertaking and it is of utmost importance, therefore, that all films should be evaluated with their cooperation. As a practical suggestion, it would be possible for the director to order large numbers of films and with the assistance of teachers from near-by schools select those that are judged suitable. The director could later check on the correctness of first decisions by obtaining reports from teachers in other parts of the state.

The quantity of literature, word-of-mouth information, and advertising that relates to motion picture equipment bewilders the average school principal. In most instances, with only limited funds available for expenditures on materials of this kind, sound information regarding them is of paramount importance. If the state department would make a study of film equipment and equipment problems and would gather information from all those in the field who have had experience in the handling of such mechanical devices, it would be in a position to answer the innumerable important questions which teachers and principals ask daily, in regard to projection equipment. Which is the more practical thing to buy, the sound or the silent projector? Is it possible for teachers to operate a sound projector or does this task require the services of professional operators? Which companies make the best projectors? Which the least expensive? These are but samples of the innumerable problems concerning which school officials wish enlightenment. A central bureau for disseminating and collecting information would be advantageous. On a recent visit to Buffalo the writer was told that all the various makes of machines now in use are to be replaced gradually in the Buffalo schools by the cheapest projector, produced by one of the large equipment companies, because this school system had found that this 350-watt lamp machine was as good as the 500-, 700-, or even 1,000-watt lamp machines of other companies. Information of this character, if submitted to the central bureau, could be checked and verified, and when valid, passed on to inquirers.

Extensive application of the motion picture to school use will necessitate careful planning on the part of building authorities for best projection arrangements. The sizes of various types of classrooms, the location of permanent motion picture equipment, the distribution of electrical outlets for portable machines are but samples of the many problems in construction that will have to be considered in connection

with the use of educational films. A state division of motion pictures should make a thorough study of these problems and should be prepared to advise the division on buildings in regard to them. Without such cooperation, success in the planning of school buildings can hardly be expected.

The gathering of information concerning experimental work, research, important publications, and the merits of theatrical motion pictures might also be included in the activities of a state department. Some of the advantages, to mention but a few, would be the avoidance of duplication in experimental work, the stimulation of interest through greater acquaintance with the activities of other schools and with the contents of up-to-date publications,[1] better guidance of pupils in their selection of motion picture entertainment, and more effective utilization of the better theatrical films in literature courses and in courses in motion picture appreciation.

## TRAINING OF TEACHERS

Another important function which necessarily belongs to the state is the training of teachers in the use of motion pictures as part of the teaching process. The film in and of itself does not obviate the need for teaching. No matter how excellent a particular film may be, its value to the class rests almost entirely with the classroom teacher; it is he whose responsibility it is to convert pictorial presentations into vital learning materials. In order that a teacher may render such a service he must acquire an intelligent understanding of the function of the film in learning, as well as skill in introducing the film in a challenging setting, connecting its presentation with proper associations, He must also devise

[1] Such a comprehensive volume as that entitled *Motion Pictures in Education*, published by the Committee on Motion Pictures in Education of the American Council on Education, furnishes encyclopedic information in this field. New York: The H. W. Wilson Company, 1937.

ways and means of directing the motive power of the film throughout the progress of the unit in which the film is used.

Clearly the abilities here suggested need to be acquired. Nothing short of first-class training in the instructional use of films will produce the qualifications needed. It is here that the state is provided with an admirable opportunity to perform an especially useful function. The state could shoulder the burden of providing its teachers with the necessary training along the lines indicated.

The first requisite in a program of teacher education in the use of films is the installation of adequate motion picture materials in the normal schools and universities. This is the *sine qua non* of efficient training in the manipulation of motion pictures as teaching aids. No theoretical discussions will suffice here; the student-teacher must actually handle the motion picture materials.[2]

The next step in developing a teacher education program is to see that these materials are used. To accomplish this it will undoubtedly be necessary to have on the teaching staff some who are equipped to teach student-teachers the use of the motion picture in education.[3] When this has been accomplished, the question arises: What is the nature of the training that teacher education institutions should provide? This question is one of the sources of controversy among educators at the present time. Some favor the use of films in each separate subject matter course, while others favor the establishment of a special, so-called core, course in visual instruction. The latter is really intended to be a laboratory course in the use of all visual aids—flat pictures, lantern slides, stereopticans, as well as motion pictures—and is on the whole held in greater favor than the alternative arrangement. The popu-

[2] Frederick Devereaux and Others, *The Educational Talking Picture*. Chicago: University of Chicago Press, 1933.

[3] M. R. Brunstetter, *How to Use the Educational Sound Film*. Chicago: University of Chicago Press, 1937.

larity of this plan is attested by the fact that over three hundred teacher education institutions in the country include it in their programs. Pennsylvania goes so far as to require such a course of all her teachers before permanent certification.

The advantages of the core course are that it offers an overview of the whole field of visual instruction, with emphasis on special methods, and insures that each individual teacher has a definite amount of training of this character. The disadvantages, however, are serious and tend to outbalance the advantages. One is that the introduction of a course devoted to the technique of teaching increases the number of professional courses in the teacher education institution. All increases in professional courses are regarded with disfavor because they are attended by a decrease in the highly desirable liberal arts courses.[4] Judd emphasizes the need of culture among the teaching personnel, saying that teacher education programs do not need an increase in opportunities for learning techniques, of which there are now more than enough, but rather an increase in opportunities for acquiring culture.

Another objection to the core course is that it cannot give teachers the teaching technique that an adequate educational motion picture program requires. Such a special course is incapable of yielding anything more than a superficial acquaintance with motion picture materials and projection apparatus. It is unsuited to the task of providing teachers with an understanding of the true role that the motion picture can play in each subject matter field. Undoubtedly, a more intimate and thoroughgoing acquaintance with the motion picture is needed than a core course can possibly provide. Such an objective points rather to a type of training in which the motion picture is an integral part of every course studied by the student-teacher. It is from opportunities to use the motion picture in his own learning experience, that the

[4] Charles H. Judd, *Preparation of School Personnel*, Regents' Inquiry, 1938.

student-teacher can become aware of the insight it can produce, and can envision its role in the learning processes of those whom he will later instruct.

There is yet another requirement in connection with teacher preparation in the use of films. It is no less important to demonstrate the best use of the film to those already teaching than to those who are preparing to teach. The state may assist in this important task by giving credit for a course in visual instruction and by organizing Saturday classes in the instruction of film technique. The state also has the opportunity to stimulate the formation of institute programs among teachers for the study of problems of visual instruction. Such programs would provide administrators and teachers with the opportunity to exhibit outstanding work in capitalizing the film for special curriculum problems, to develop film lessons, and present demonstration lessons. In this connection, however, it is important to point out that the state should not participate in the supervision of teachers in service in their use of films. This function is best left to the supervisors who are charged with the general responsibility of assisting the local teachers. The state can perform a service, however, by providing training in film technique to teacher supervisors. Such a service could hardly fail to be accepted, but direct supervision of visual education on the part of the state would undoubtedly be interference.

## EXPERIMENTATION AND RESEARCH

A state department of education should not only cooperate with other institutions of learning, with educators, and with motion picture producers in the development of films particularly suited to educational use,[5] but should coordinate the work of the various divisions under it. For example, the New York State Museum might present its work to the schools and adult groups through motion pictures as well as radio.

[5] See pages 22 to 24.

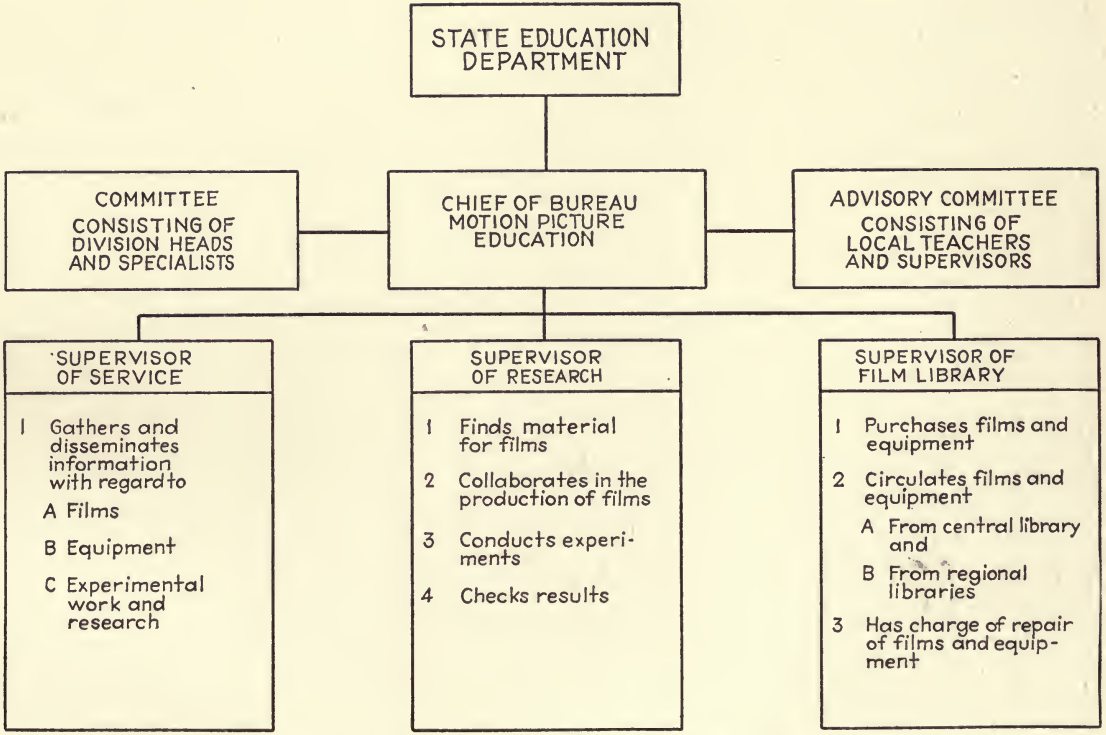
STATE EDUCATION DEPARTMENT
COMMITTEE CONSISTING OF DIVISION HEADS AND SPECIALISTS
CHIEF OF BUREAU MOTION PICTURE EDUCATION
ADVISORY COMMITTEE CONSISTING OF LOCAL TEACHERS AND SUPERVISORS
SUPERVISOR OF SERVICE
1 Gathers and disseminates information with regard to
A Films
B Equipment
C Experimental work and research
SUPERVISOR OF RESEARCH
1 Finds material for films
2 Collaborates in the production of films
3 Conducts experiments
4 Checks results
SUPERVISOR OF FILM LIBRARY
1 Purchases films and equipment
2 Circulates films and equipment
A From central library and
B From regional libraries
3 Has charge of repair of films and equipment

CHART 1. PLAN FOR STATE MOTION PICTURE EDUCATION

Another special contribution of a state would be to evaluate films from the standpoint of their actual application to public education. As has been pointed out earlier, for some time to come the production will have to be followed by close observation of teaching processes and of results as a basis for future production. The state division of motion picture instruction, working in close cooperation with classroom teachers, will be in a particularly advantageous position to render helpful service. It will have opportunities to discover the types of films best suited to school instruction and to make recommendations in regard to new films. In the last analysis, this is the only method by which the true value of the motion picture as a teaching medium will be ascertained. No amount of isolated experimentation will afford a valid test of the film's efficacy as a general teaching device. Actual use under normal conditions alone will reveal what the film can do. Likewise, use alone will indicate the types of films best suited to school use, the best methods of use, the effects that films have on children, and the relation of films to existing materials and procedures of instruction.

Throughout this entire experimental period the role of the classroom teacher will be tremendously important. The teacher will be the one actually to use the films and to scrutinize at close range the effects that films have on the student, and finally the one to measure the film's usefulness and its place in the school program. The use of films, in short, is bound to bring about closer cooperation between teachers, school administrators, and curriculum committees.

In the nature of things closer cooperation from teacher education institutions will also be the outcome, for any changes made in the school curriculum will require corresponding changes in teacher education institutions. Intensive motion picture usage, therefore, points the way to a more active participation on the part of teacher education institutions in the actual life of the educational process than has existed in the

past. Such an outcome would be desirable, for as educational authorities point out, one reason why members of the faculties of teacher education schools are not productive scholars is that they are not always in close contact with the schools which they should nourish. A vital educational program making use of the motion picture can hardly fail to serve as a stimulus to scholarly effort on the part of training institutions, producing that general atmosphere of productivity typical of colleges and universities which, in Judd's words, these public institutions "so woefully lack."

### CIRCULATION OF EQUIPMENT

It would be desirable for the state to adopt as a function the distribution of motion picture films and projectors to the schools, especially those located in rural districts. Just how costly such a function would prove to be would depend upon the size of the enterprise. The size of the lantern slide service might indicate such relevant data as the number of films needed and the types of services that would be required in connection with storage, delivery, repairing, recording, and the like.

The plan of the lantern slide service could not be used, however, to determine the number of subjects covered. The films should not be selected with the view either of duplicating or of replacing the slides, but rather they should be selected slowly and carefully in order to build up gradually a library that will meet new needs including those created by film usage itself.

As to the question of location, two arrangements are possible, namely, a centralized lending library located in the state department of education, or a decentralized distribution system with its regional libraries. Let us consider the respective advantages of these two arrangements.

A centralized library of films, formed as a branch of the visual instruction division and patterned after the slide rental

system, could be installed with a minimum of trouble. The service which already exists is usually so well organized that extension of it would entail little trouble. Yet, because of certain disadvantages, the plan should not be too strongly recommended. The outstanding disadvantage is that much time is lost in circulation. This fact is best illustrated by the situation which prevails in Rochester in connection with the lantern slide service. The director of the Rochester visual education division reports that in previous years the lantern slides were circulated from the State Education Department, and, because of delay and inaccessibility, the use of the slides by schools was negligible. During the past year or so, through an arrangement with the Visual Education Division in Albany, many sets of slides are permanently deposited in Rochester for use by Rochester schools. Under this new arrangement the use of slides was substantially increased. Whereas in previous years each set of lantern slides from Albany was circulated only twice a month, under the new arrangement each set is circulated five times per month.

A regional film library system, with its headquarters at the state capital, would have, in addition, another important advantage. If it were so arranged that the regional libraries were placed in the teacher education institutions, then that close cooperation between the teacher education institutions and the schools, which was described as being desirable, would become more of a reality.

## CHAPTER V

# Radio as a Medium for Mass Impression

### INFLUENCE ON CULTURE

A REPORT of the Joint Committee on Radio Research states that 82 per cent of all homes in the United States have radios.[1] Another report, by the Columbia Broadcasting System, states that there are over ninety-five million "family hours" of radio listening each day.[2] No matter what the content of the programs, it must be assumed that such extensive mass impression constitutes a powerful influence on the lives and thoughts of the public. The important question is, How beneficial is the influence thus exerted?[3]

The radio programs which are paid for and sponsored by commercial firms are for the most part entertainment of a light character. The content of the Columbia Broadcasting System program for July, 1937, is illustrative of the common sponsored program. Among the sixty-odd items listed, there are four news broadcasts, one broadcast on child care, one on household

[1] Joint Committee on Radio Research, *Estimated Number of Families Owning Radio Sets in the United States, January 1, 1938.*

[2] This report, published April, 1937, presents the interesting arithmetic steps which lead to the statement, viz.: "(a) 24,500,000 radio families in the United States, (b) 76.4 per cent, or 18,718,000, listen some time daily, (c) average time these families listen daily is 5.1 hours, (d) 5.1 hours times 18,718,000 sets in daily use equals 95,461,800 'family hours' of listening each day."—Columbia Broadcasting System, *Radio in 1937.*

[3] The School of Public Affairs of Princeton University, with the aid of a grant from the Rockefeller Foundation, is planning to undertake a comprehensive survey of the influence of radio on present-day life.

advice, and one on general knowledge, called Questions and Answers. The rest are popular and light music programs, variety shows, and serial dramas. The latter term refers to programs bearing such titles as Our Gal Sunday, Myrt and Marge, and The Gumps.

The sustaining programs, that is, the programs not sponsored by advertisers, are of superior quality. For example, the program of the Columbia Broadcasting System for the same period contains four dramatic series, many series of serious music, a public affairs series, an educational series, a children's series, and broadcasts of special events and addresses. The dramatic series includes, among others, a Shakespearean cycle and the Workshop Plays, which are radio dramas of high quality. Among the serious music broadcasts are the Lewisohn Musical Stadium concerts, the series called Story of the Song, and various international broadcasts including the Stradivarius Festival in Cremona. The Public Affairs series includes many programs. The following among them will serve as examples: Nazism in America; Current Questions before Congress, discussed by members of the House of Representatives and of the Senate; and The Cabinet of the United States, which consists of addresses by the various secretaries on the work of their departments—State, Treasury, War, Navy, Interior, and others. The educational series includes talks on medicine and on current developments in science, a series of talks on the development of the United States as depicted in the growth of our great industries, a series of firsthand accounts of exploration in many lands, a series of broadcasts about some of the Central and South American countries, and many others.

The assortment of programs indicated above constitute the average weekly radio fare. Although, as has been pointed out, the preponderance of programs is of the light entertainment variety, it is plain that not a little opportunity is provided to listen to programs of good quality. The lamentable

aspect of the situation is that no very great use is being made of the superior programs. It is the variety and musical programs, not the broadcasts dealing with serious ideas, excellent music, or great literature, that are the most popular. Analysis has shown time and time again that the great majority of listeners prefer entertainment of the very lightest kind. For example, a poll of favorite radio performances conducted by the Institute of Public Opinion in May, 1937, revealed that the four most popular ones were those of comedians, with 32,814, 13,394, 12,040, and 10,202 votes respectively. The fifth choice, with a vote of 8,630, was a news commentator. The next five were also entertainers of the popular type.

This preference is entirely in keeping with the taste of the public in other fields. Indeed, there is no reason to anticipate that the taste of radio listeners should differ greatly from that of readers of magazines, newspapers, and books. The nature of this taste is indicated in various ways. For example, surveys have shown that the average newspaper reader is not so concerned with news of serious problems as with stories of sensational incidents, prize fights, football games, and such other features as comic strips, fashions, and advice on personal problems. The outstanding study of this kind was conducted by the Institute of Public Opinion in 1934 and showed that out of 100,000 adults in metropolitan centers, 90 per cent read the picture sections regularly while only 47 per cent of the men and only 38 per cent of the women read the banner story on the first page. This same survey revealed that the comics come second for both men and women, having scores of 68 and 70 per cent respectively. A Washington correspondent's column is read by only 8 per cent of the women and only 15 per cent of the men readers. Still further information of this character is contained in a statement by the director of the Institute of Public Opinion. He states:

> The following features, and only these are read by more than 40 per cent of the women readers of one metropolitan newspaper: pictures, humor

column, love advice, comic strips, and continued story. The following features, and only these, are read by more than 40 per cent of the men readers of another metropolitan daily: political cartoon, weather, pictures, lead sports story, and comics.[4]

Similar surveys of magazines have yielded like results. A report of the American Library Association, based on the results of a nation-wide survey conducted in 1936 of the reading habits of the American public, states that the great majority of magazines read by the public are pulps.[5] Another study which dealt with trends in magazine circulation reveals that mystery, motion picture, pulp, and romance magazines show the largest percentages of increase during recent years.[6] The report brings out that whereas there were 12 magazines of the mystery, pulp, and motion picture type in 1929, there were 36 in 1935; and that whereas the total average circulation for the 12 magazines in 1929 was 4,376,940, for 1935 it was 12,390,171. Among other so-called general magazines—as distinguished from technical and trade magazines—the increase in number for the same years was from 92 to 120, and the increase in average total circulation was from 47,907,258 to 50,727,037.

The taste of the public as revealed by its reading of books is comparable. The following list comprises the fourteen most popular books, that is, those that sold over a million copies, during the first two decades of the twentieth century:[7]

*In His Steps* (1899)
*David Harum* (1900)
*The Virginian* (1902)
*Little Shepherd of Kingdom Come* (1903)
*Story of the Bible* (1904)
*Freckles* (1904)

[4] George Gallup, "Guesswork Eliminated in News Press Survey," *Editor and Publisher—The Fourth Estate*, 62: 55, February 8, 1930.

[5] Report of the American Library Association, printed in *Fact*, September, 1936.

[6] "A Trend Study of 158 'General' Magazines," *Standard Role and Data Service*, New York: Association of National Advertisers, 1936.

[7] From a list of best sellers, as compiled by the Columbia University Institute of Arts and Sciences in 1933.

| | |
|---|---|
| *Trail of the Lonesome Pine* (1909) | *Pollyanna* (1913) |
| *Girl of the Limberlost* (1909) | *Laddie* (1913) |
| *The Winning of Barbara Worth* (1911) | *The Call of the Wild* (1917) |
| *The Harvester* (1911) | *The Sheik* (1921) |

With two or three exceptions, most of these books are sentimental and of no great intellectual, artistic, or literary value.

During the past fifteen years, there has been a definite trend toward the appreciation of books of greater literary value and more worthwhile content. This is especially brought out in the fact that good non-fiction has become as popular as fiction, and fiction has concerned itself with universal problems. Such best sellers among fiction as *Elmer Gantry*, *The Good Earth*, and *The Last Puritan;* and among nonfiction as *Outline of History*, *The Epic of America*, and *Man the Unknown* are indicators of this change of taste. While the change in literature has been slow, the fact that so fundamental a part of our culture is changing makes us hopeful that the more recent cultural developments, such as radio and motion pictures, will follow suit.

If the public preference for mediocre radio programs continues it will be most unfortunate. There is no good reason why this should be the case. For the first time in history communication can be produced cheaply enough to be within the reach of practically every home in the country, irrespective of economic status. This was not the case even as late as 1933, when President Hoover's Committee on Social Trends was making its investigations. At that time, as the report of this Committee indicates, there was great variation in extent of ownership as a result of economic and other factors.[8] For the most part, the families of high income levels, living in the cities and towns of the Middle Atlantic states were the radio receiving-set owners at that time. There is no such concentration of sets

[8] Malcolm M. Willey, and Stuart A. Rice, *Communication Agencies and Social Life*, pages 187–94, in *Recent Social Trends*. New York: McGraw-Hill Book Company, Inc., 1933.

at the present time; on the contrary, as has been stated, 82 per cent of all families have radios. This percentage represents all income groups, in all communities, with the percentage as high as 85.1 for homes with an income of $2,000 and under in communities of 2,500 population and over, and as high as 88.8 for homes in communities from 2,500 to 10,000 inhabitants, and as high as 59 in the farming areas. Truly this is a most amazing opportunity to inform the citizenry and to shape its attitudes and standards.

To this extent the situation presents an unusually favorable educational opportunity. But various all too familiar factors complicate the situation. One is the fact that the choice of the individual listener is completely unrestricted and voluntary, and the other is that the programming of radio broadcasts is in the hands of private enterprises whose most immediate concern is not education but profit. Because it is less than realistic to think that radio listening in the United States will ever be anything but entirely voluntary, it is necessary to consider only the latter of these factors.

## FACTORS AFFECTING BROADCASTS

In Germany, Italy, Russia, and certain other European countries, the problem of deciding what people shall hear over the air is comparatively simple. The government authorities have full control over the airways, and broadcast whatever programs they wish. In speaking of the way that these three countries use radio facilities entirely for propaganda purposes, H. V. Kaltenborn says:

> We hardly need dwell on the fact that their word for propaganda is "political education." This particular kind of education is obviously the best available means to organize and direct mass opinion. This term and such others as "public enlightenment" have little significance until we examine them in practice. An important part of Soviet Russia's government-owned and -operated broadcasting is devoted to high-powered transmission by short wave of special foreign language programs aimed at and adapted to special groups of foreign listeners. Propaganda by radio is rarely confined

to "domestic culture." That, from any dictator's standpoint, would be uneconomic, for he must constantly spread his gospel to all groups of potential nationals, foreign sympathizers, and agents, and all manner of susceptible minorities within range of his transmitter. This development of propaganda broadcasting across frontiers has produced odd ramifications and has caused the dictators real worry. German broadcasts into Australia, Russia broadcasts into Germany, Italian broadcasts to the Arab lands have all caused international incidents. Soviet broadcasts in German were so effective that Hitler ordered his subjects not to hear Russian stations. *Verboten* proclamations were not effective and now the secret police have a special division devoted to radio snooping which makes frequent arrests.[9]

In general the development in European countries of short-wave broadcasting which has received sudden impetus during recent months, has been for purposes of political propaganda. Large sums are spent for the erection of overseas transmitters. Powerful stations are producing broadcasts in a variety of languages for different parts of the world. In England, where the broadcasting of propaganda has been consistently held as self-defeating, international broadcasting has received new attention. Whereas previously the British Broadcasting Corporation confined its short-wave activities solely to "straight news" spoken in English, more recently it has announced its intention to introduce a world-wide service of "straight news" in a number of languages, including Arabic and Spanish, for listeners in the Near East and South America. It is commonly felt that the underlying motive in the enthusiasm for international broadcasting is propaganda of one sort or another. Nations are endeavoring either to imbue other nations with their political policies, or else to win them for markets for their goods.

Although the United States is likewise awakening to the possibilities of the use of short-wave radio for international communication, as evidenced by the erection of powerful transmitters at such points as Schenectady, Pittsburgh, and

[9] H. V. Kaltenborn, *Kaltenborn Edits the News*, pages vi–vii. New York: Modern Age Books, Inc., 1937.

along the Pacific Coast, the motive is to further foreign trade.

> Today America is being sold to radio listeners throughout the world and American goods and services are finding new friends everywhere. Short waves are paving the way. . . . As the foreign home learns more of the United States, more American goods will be found among its purchases. . . . As an ambassador of understanding and good will, and a helpful guide in learning how other people live and think . . . and deserve our sympathy and consideration, the radio is naturally followed by trade, just as was the case through communication by slow boats and by couriers which instituted our first communication systems, and later by the post, the railway, fast ocean navigation, the telegraph, and the telephone.[10]

In the United States where the licensing of private enterprise is the usual method of operating businesses affecting public interest, it is quite natural that radio broadcasting with minor exceptions, should be a privately owned enterprise. Such a method is in keeping with the democratic principle and with the theory of freedom and personal rights. It is probably safe to say that on the whole the system itself meets with the approval of the majority of the citizens of this country. Yet, though the system as such is acceptable, its actual operation has been the source of much criticism. Many criticize the stations, others, the Federal Communications Commission which is in charge of the licensing and regulation of the enterprise. They claim that the Commission has failed in its duty chiefly by allowing a situation to develop in which practically all the important broadcasting facilities are in the hands of three big broadcasting chains. Aside from seeing unfairness to independent stations in this arrangement, these critics consider a further evil to be the tremendous power it gives the great chains. The following statement[11] by the secretary

[10] From reports prepared by John H. Payne, Chief of the Electrical Division, Department of Commerce. Quoted by Orrin E. Dunlap, Jr., in "The Tongues of Nations," *The New York Times*, November 21, 1937.

[11] Howard S. Evans, "Public Opinion and the Radio," an address given before the Maryland Federation of Women's Clubs, Baltimore, Maryland, April 14, 1937. Mimeographed.

of the National Committee on Education by Radio brings out one complaint against the system:

> If it is true, as Congressman Wiggleworth charged, that only 3 per cent of the full-time night power is available to stations not affiliated with the national chains, it would seem to be a corollary to the fact that anyone wishing to reach the whole nation with a message would have to find some way to gain access to the facilities of the chains. If so, the persons in a position to control the policies of those three chain systems have a power greater than that possessed by any other group to control the public opinion in the United States.

Another objection brought out in this address is that the member stations of the chains have a great deal of freedom in deciding whether or not chain programs shall be carried, often substituting their own programs for those offered by the chain when it is profitable to do so. This works for inequality in the representation of opposing points of view. Using the Supreme Court issue as an illustration, Mr. Evans states:

> Both sides have stated their cases, but with this difference. When the President spoke in his fireside chat, he had at his disposal practically every broadcasting system operating at that time in the United States. There were no jazz bands or variety programs to compete with him for listener attention. You either listened to him or you tuned off your radio. On the following night the President was answered by a United States Senator. Only one chain was put at the Senator's disposal, and not all of that. He spoke in direct competition with other programs carried by the other chains. His opportunity to reach the people was considerably restricted.

The possession of such vast power by a few private concerns is a potentially dangerous thing. But so, of course, is public control, as the propagandist use of radio by certain European countries illustrates. Government monopoly is not necessarily attended by a propagandist use of radio. Generally speaking, however, it does constitute a real danger. It affords a powerful weapon to partisan and sectarian groups. Under the private ownership system there is at least the advantage of competition by rival systems. This advantage is brought out in the United

States by the presence of the three powerful rival broadcasting chains. The existence of this rivalry, if actually maintained, is healthy in that it provides an opportunity to establish a variety of policy, and thus a balance of views.

The criticism which is aimed more directly at the station owners themselves than at the Communications Commission is that they devote the best broadcasting hours of the day to sponsored programs of the light entertainment variety. This is a serious indictment of the station owners, who in turn place the blame upon the public which, in their judgment, demands this type of program. The popularity of light music and variety programs certainly affords argument for their continuation. Yet the matter is a debatable one, and even if it were true that the great majority of the listeners prefer jazz to classical music and cheap comedy to great literature and to instruction in scientific, economic, political, and other matters, there is always the possibility of raising their standards of taste and value by persuasive means and by the simple method of having a fair proportion of the radio programs of quality and educational value. Educators can be of great service here. It is in their power so to enhance educationally sound radio materials with interest that the usual radio entertainment will appear stupid, insipid, and unappealing in comparison. Educators can attack the problem from still another angle. They can elevate the standards of appreciation of all those groups, school and adult, with which they come in direct contact.[12] When scientists, university professors, government experts, and historians are among the favorite radio performers, the station owners will not be able to rely upon this argument in justifying worthless broadcasts. Nor will they have occasion to continue such a policy; it will be to their best interests to provide radio broadcasts of the very highest quality.

[12] The Weequahic High School, Newark, New Jersey, has inaugurated a course on photoplay and radio appreciation for which the State Department of Education has agreed to give credit toward graduation.

Certain groups and individuals believe that public censorship of broadcasts will have to be resorted to if public standards are to be elevated.[13] This type of control, aside from the fact that it is opposed to the democratic principle of free speech and therefore not in accord with our national ideals, is at best only useful in prohibiting indecent and vicious programs, which the industry itself excludes on its own responsibility. Censorship is not adapted to improve the intellectual, moral, or artistic standards of radio programs any more than it is of literature, music, and art. This, education alone is best fitted to do.

[13] The Communications Act of 1934 provides against censorship of broadcasts by the Federal Communications Commission. The Commission may exercise control, however, in the renewal of licenses. This measure of control, actually put to use, is of special value in the regulation of advertising. Through its exercise all false and misleading radio advertisements can be eliminated.

CHAPTER VI

# Adaptation of Radio to Education

## SPECIAL ADVANTAGES OF RADIO

The principal function of radio is to reproduce with striking efficiency spoken language, music, and all other forms of sound. Although this instrument holds possibilities for creating new forms of expression, its power of instantaneous communication is in itself of tremendous importance in obliterating isolated remoteness, in removing frontiers, and in disseminating knowledge and culture. From the point of view of education, the important problem is to discover how the properties peculiar to radio may be made to serve the purposes of education.

### *Introduces History in the Making*

The most conspicuous, as well as the most important, contribution that the radio can make to education is undoubtedly that of introducing history in the making. Events of great significance brought into the classroom over the radio become, through the words of living participants or of commentators actually present, meaningful and vital realities of which the listener feels himself a part. By hearing the words as they are uttered by the chief performers or by hearing the words of an eyewitness, the listener is transported to the scene of action and in a very real sense participates in the momentous experiences. Auguste Piccard's ascent into the stratosphere was witnessed, vicariously, by untold millions, as were also President Roosevelt's inauguration, King George's coronation, the settlement of industrial strifes, and the celebration of Harvard's

Tercentenary, to mention but a few of the most outstanding recent events transmitted by radio.

For the school such broadcasts have inestimable value; they not only keep students informed of the significant happenings in the world, but they also create an infinitely closer contact between these students and the world than could be obtained in any other way. This use of the radio imparts to the listener an intimate knowledge of current history, and creates in him a genuine feeling of world membership.

*Keeps Contact with Outside World*

Newspapers, magazines, newsreels, and books interpret and record for public consumption the vast succession of developments in national and world affairs, in scientific discoveries, in social life, in literature, and in art. The news broadcast, though in a sense but one reporter of current history among many others, is nonetheless one having certain unique advantages.

In the first place, the radio transmits news items more rapidly than the press or the cinema. That special feature of radio which enables listeners to participate in world events as they take place has already been noted. The rapidity of the radio in transmitting news of recent occurrences is almost as remarkable. The radio can inform the world of all that is taking place in a miraculously short space of time after the event has happened, and thus keep the public up to the minute in developments of general interest. This feature of the news broadcast is important for the school from the point of view of keeping a living contact with the outside world.

It is within the area of the changing subject matter . . . that the radio gives promise of being most useful. Subject matter becomes crystallized in textbooks, and methods become habitual and fixed. Properly infused broadcasts can bring just enough of the outside world into the classroom to keep the school attuned to the times.[1]

[1] Cline M. Koon, "Should I Bring Radio into My School?" *Thirteenth Yearbook of The National Elementary Principal*, XIII: 381, June, 1934.

Another advantage in the news broadcast, especially from the standpoint of the school, is its selective power. The broadcaster can present news items of significance and omit items of lesser journalistic value. In this way students are helped to distinguish between the worthwhile and the trivial, and are stimulated to take an interest in national and world problems. And finally, the news broadcast, because it is an oral presentation, facilitates interpretation. By means of voice modulation, inflection, accent, and the use of pauses, the intelligibility of news articles is increased and the value of the current history lesson enhanced. An excellent news broadcast should furnish an incentive to students to follow up subsequent developments in world situations in magazines, books, and newspapers. It should serve to set students to thinking and reading about such vital subjects of contemporary interest as unemployment, disarmament, slum clearance, and the problem of preserving the democratic form of government.

*Introduces Illustrious Personalities*

One universally appreciated experience is contact with gifted and distinguished personalities. A Ghandi, a Madame Curie, a Lindbergh, or an Einstein represent supremacy in human achievement. To hear them speak imparts to those in ordinary life a feeling of solidarity with the great, and an aspiration toward progress. To be in the presence of the great is to be nearer greatness oneself.

Again, a radio discussion of great world problems by the highest authorities competent to express opinions about them, not only brings out, through the quality of the speakers' voices, the importance and gravity of problems, but also draws closer attention to the problems themselves by lending special importance to the occasion. The 1937 international radio symposium on peace, sponsored by the National Peace Conference, in which important representatives of eight nations participated, is one striking illustration of this use of

radio. Those who spoke on this occasion from various cities in Europe and North and South America included Cordell Hull, Secretary of State of the United States; Camille Chautemps, former Prime Minister of France; Paul Van Zeeland, Premier of Belgium; William L. Mackenzie King, Prime Minister of Canada; Anthony Eden, former Foreign Minister of Great Britain; Alfonzo Lopez, President of Colombia. There was also a statement by former Chancellor Kurt Schuschnigg of Austria, read in his behalf by a representative.

The program was broadcast in this country over the network of the Columbia System, and in Europe and South America by short-wave radio. The speakers stressed the importance of cooperation as a means to world amity, and pointed out that the great task in the progress toward peace was for peoples and governments to grasp clearly and follow steadfastly the principles that are essential to peace. They expressed their faith in the revival of international trade through the reduction of government intervention, and each of them declared the willingness of his government to follow a policy of economic cooperation. It is inconceivable in the first place that all of the millions of persons who heard this symposium over the radio would have read each of the individual speeches, in the newspapers, for they were, after all, published in but a few metropolitan papers. But even if they had, they would still have missed much of the impressiveness of the occasion, and much of the importance of the subjects discussed.

Although renowned persons are no longer set apart, because they now are made familiar to all through the newspaper, the magazine, and the newsreel, yet opportunities to participate in experiences with them are rare. The radio here renders a unique service. It grants to all the privilege of hearing the voices of great persons, and of getting their words just as they are uttered. With television—and it is at this point that television will first prove of practical value—this service will be even more significant.

The value of broadcasts by leaders in more modest fields of activity or of learning is similar, except that the emphasis is less on the value that is derived from the simple fact of their eminence than on the things they say. This would be true of music, and all other realms of intellectual activity. Let us consider, for example, the benefits to be derived from radio broadcasts by outstanding public officials. It is generally conceded that teaching children their role in government and fitting them for modern community life are important tasks that schools are expected to perform. Without guidance and direction children have difficulty in apprehending our complex existence and fail to get their social, economic, and political bearings. Now, what service of the character we have described can the radio broadcast render? It can arouse the children's interest in subjects of government, and it can stimulate children to study the many problems that community life creates. A broadcast coming from a federal, state, or local official will afford valuable information, and offer suggesions as to the way certain problems should be solved; and, in atddition, it will be of service in arousing the individual mental effort of the child, which is perhaps the most important objective of education.

Thus far only meager attempts have been made to provide broadcasts of this type specifically for school use, nor have broadcasts already devoted to subjects which are relevant to school work been utilized by the schools. There are numerous radio addresses not specifically intended for the classroom, which the school might use to advantage. The group of addresses of diversified interest which the Columbia Broadcasting System broadcasts and later prints in pamphlet form under the title of Talks is an example of these. The list includes such subjects as America's Economic Outlook by Sir Josiah Stamp, Tenant Farming and Its Evils by Henry A. Wallace, and Our Greatest Crime Problem by W. H. Drane Lester, and others, of a slightly different type, such as the series of ad-

dresses and debates by public characters on the proposed Supreme Court reorganization.

*Brings Great Music into the School*

The radio has contributed enormously to the appreciation and understanding of music, to the popularization of great music, and to the development of rhythmic expression. The value of radio to education in this field cannot be overestimated. To be sure, without the radio, good music is available to schools with the use of the phonograph, but the high cost of the finest phonograph records limits the school greatly in its opportunity to hear good music. The radio, however, affords variety and, when the program is prepared specifically for school use, appropriate instruction.

Much first-class music is now being broadcast into the schools in such a way as to constitute a course in music appreciation. The most famous broadcasts of this character are the Damrosch programs of music appreciation arranged for pupils of four different age levels and presented over both networks of the National Broadcasting Company. Walter Damrosch, known throughout the world as the director of the New York Symphony Orchestra, presents the concerts, and provides the accompanying talks on musical forms and values. Millions of children throughout the country listen to these programs, the yearly audience numbering about five million.

As part of its American School of the Air[2] program the Columbia Broadcasting System offers for school use several courses in music appreciation. Each year the program includes a series of broadcasts for the upper grades and the high schools, one for the intermediate grades, and one for the primary grades, with an attempt at diversity in each series. For example, the 1936–1937 programs for the upper classes were devoted to music composed by famous men who are not well known as musicians. Some of the composers chosen were Frederick the

[2] See pages 119 and 121.

Great, who wrote orchestral pieces for his court concerts; Henry VIII, who wrote many songs, instrumental pieces, and choral works; Rousseau, whose opera *Le Devin du Village* was for many years one of the most popular operas in France; Sidney Lanier, Frederick Nietzsche, Samuel Butler, and many others. The purpose of these broadcasts has been to make a graphic presentation of the fact that "music may truly be a creative expression within every man's reach—no matter how busy he may be, how rich or how humble" and to afford an opportunity to students to view history and personalities in a new light, and to bring to attention the intimate part that music has played in cultural and social progress. The broadcasts comprise renditions of the musical compositions under consideration, comments on the music itself, and discussions of the composers, their times, and the instrumentation of their periods. The programs for the primary grades include such titles as Singing Around the World, Thanksgiving Day in Song, Aesop's Fables, New Years in Other Lands, and Indian Songs and Legends. It was intended that these programs should correlate with history, geography, nature study, and familiar stories and poems. The writer was present at the reception of several of these broadcasts and found that in every instance the response was exceedingly enthusiastic. The programs for the intermediate grades contained presentations of music from European countries. An interesting feature of these was participation in the programs by children in other lands. Thus school children in London, Paris, Rome, Budapest, Dublin, and Copenhagen sang native songs and sent greetings to the children of this country, which stimulated interest, not only in music but also in geography. Beautiful drawings of children in native costume were made by a fourth grade class in Watertown, New York as a result of their radio program. These programs had even greater intrinsic values. For example, the feeling of appreciation for the foreign-born child that came about through one radio experience was observable. A

very timid Polish child was encouraged to respond with a song in her native tongue after a broadcast from Poland. Similar activities were undertaken in other classes. Besides the programs that the country-wide broadcasting systems offer, there are locally broadcast musical programs of excellent quality that are appropriate for school use. In a few instances the latter are actually prepared for school use. Without doubt the radio is a tremendous source of enrichment in the realm of music and music appreciation.

In all the functions thus far discussed the phenomenal capacity of the radio to transmit and disseminate has been the basic feature under consideration. The radio provides other advantages, based not so much on the facts of transmission and dissemination as on the fact that the radio broadcast depends for its interpretation on auditory perception.

*A New Form of Expression*

The radio is used primarily to transmit music and spoken language. Its possibilities for creating compositions out of sound have been left practically unexplored. To be sure, broadcasters make use of so-called sound effects on the flimsiest excuse. Thus doors are opened and shut to indicate entrances and exits, splashes are introduced to suggest the falling of objects into water, and grunts are introduced to connote the presence of pigs. In every instance where natural sound of this character is used, the underlying purpose is to round out a dialogue or a drama; it is practically never used to make something new and complete out of sound itself, or even to constitute the principal ingredient of a broadcast. That so little attention is paid to sound as a special medium of expression is undoubtedly a reflection of the fact that the mind functions to a very large extent by means of visual imagery and through the use of words, which in turn are frequently symbols for visual experience. In the long process of becoming civilized the human consciousness has lost its primitive

dependence on sound; there is no longer need for cries to convey meanings in regard to fighting, mating, and other elemental activities. Yet because sound did play an important role in the life of the race, it is still fundamental, and even to-day exerts on thought and action a far greater influence than is commonly realized. We relax amid the natural sounds of the country, we are captivated with laughter, and we are swayed, much more often than we are willing to admit, by voices instead of by words. For example, we speak nowadays of pleasing "radio personalities." But what is a radio personality? It is a type of voice that possesses sensuous quality together with an extraordinary expressive power. And so in other realms of life, sound plays an important role in the shaping of thought, emotion, and action. Sound is a powerful agency, and without doubt it holds possibilities for the development of an aural art that is outside the realm of music.

Now, since radio is adapted to gather sounds of every kind and to distribute them blended in endless variations, it should be the logical medium for experimentation with the composite use of sound. It should prove capable of welding together speech, music, and natural sounds into meaningful material, just as the cinema is capable of weaving meaningful material out of disconnected visual images. As a matter of fact, to a certain extent all broadcasting, even that which we have to-day, is composition of this sort; the essence of broadcasting is, in a very real sense, the power to create unity by aural means. Really significant examples of such a function have been, thus far, strictly limited in number. Perhaps the outstanding experiment with the potential power of the radio to tell a story was that performed in England by the Film Unit of the General Post Office, which consisted in the production of a sound record of the mining industry. This sound composition, produced originally as the sound accompaniment to a motion picture film, is a symphony of natural, vocal, and musical sound. It has been broadcast from the record without the

motion picture with tremendous effect. The object in producing this broadcast was very much the same as that underlying the production of documentary films.[3] Neither scientific nor statistical information, but poetic description, is the end in view. The leaders of the Film Unit feel that poetry is inherent in all reality—in mining, shipping, forging, spinning, as well as in music from instruments—and that frequently the poetry is to be captured from the tonal attributes of an object rather than from its spatial form. John Grierson feels that the British Broadcasting Corporation has not paid enough attention to this fact. He says:

> Neither talk nor description has seized the opportunity which the microphone gives for variety of observation. Presently, I expect, the documentary method will teach it [British Broadcasting Corporation] how to take its microphone afield and improve the character and inspiration of its announcements. Cabined and confined they are, not only in their technique but in their reference, and this is a serious matter if the public imagination is to be developed and fixed. The lecture method, now so generally adopted, is a Victorian conception unworthy of our modern instruments and impotent in the face of modern problems. We cannot lecture into life a society so complex, though the British Broadcasting Corporation is bravely trying to do so. We cannot even lecture into life by adding, like the British Broadcasting Corporation, viewpoints of men in the street written by men who are not in the street. The reporting of public affairs must go deeper than viewpoints altogether. It must go to the quick of actual experience. We have, by the documentary method, the means to do this, for the orchestral possibilities of the sound band are many. Description and commentary, interview and vernacular, natural sound and created chorus offer in combined orchestration a quality of reporting which must widen experience and increase insight as no previous method can hope to do. If this possibility is realized, at good last we may hear not only the voice of the pundit, but the voice of the people.[4]

Britain's coronation broadcast, Salute of the Empire, is one illustration of this method, and its value, from a purely

[3] For discussions of the documentary film *see* Chapter II, page 22, and Chapter III, pages 57–58.

[4] John Grierson, Preface to Paul Rotha's *Documentary Film*, pages 9–10.

aesthetic point of view, is not diminished by the knowledge that the pledges of loyalty to the new king and queen from the South African gold miner and sugar planter were actually rendered by motion picture managers and sports writers, nor by the fact that the roar of the wild jungle lions was in reality the recorded utterance of a zoological garden pet.

Interest in the radio as a medium for artistic expression is not restricted to England. Everywhere tentative beginnings are being made to put to advantage this peculiar flexibility of the radio.[5] In the United States this adaptation of the radio has received an impetus in recent years. Sound accompaniments of such interesting activities as the unloading of shipments of food in the early morning at the docks, the ushering in of the New Year around the world, and others, have been picked up by the microphone to form essential parts of meaningful sound compositions. Also, plays are being written by serious artists expressly for the radio, and therefore expressly for sound pictures and sound meanings. The Columbia Workshop of the Columbia Broadcasting System is specializing in the production of such plays. Gulliver's Travels, The Stone Gods, and The Young King are sample broadcasts of adaptations, while Split Seconds by Irving Reis, the director of the Workshop, Supply and Demand by Irving Shaw, and, in particular, The Fall of the City by Archibald MacLeish, are examples of the actual radio drama. The production of the last-mentioned broadcast marks a definite step in the progress of nonmusical orchestration. It shows what can be done sensitively and imaginatively through the use of sound and sound alone. An artist of repute has expressed through verse and through blended sounds and voices the unhappy truth about human nature:

Masterless men
Must take a master!

[5] Rudolph Arnheim, *Radio*. London: Faber and Faber, Ltd., 1936.

And a gifted engineer, with the assistance of distinguished actors, translated the artist's concept, through the medium of the radio, into a moving and powerful sound poem.

Radio productions such as the Fall of the City have artistic values in common with literature, sculpture, and music. Radio has an advantage over most other artistic creations in that it is readily accessible; it can be tuned in with the turn of a hand. Broadcasts of this character could take their place beside the best musical programs and addresses to inspire, instill values, and to mold character. It is difficult to realize the effect that a broadcast of a truly great aural composition can have upon the listener, just as it is difficult to realize the effect that the steady stream of sentimental music and sentimental drama is making on the radio public to-day. Sentimentality is always weakening; expressed through sound it has an insidiously destructive effect. The only means for counteracting the evil influence of sentimental broadcasts is to replace them with fine broadcasts. Nor will such broadcasts fail of their mark, for they appeal to the ear, "and the ear is already half poet."[6]

*Exemplifier of Good Speech*

Although there is no evidence as yet that the newly acquired habit of listening to radio addresses, plays, and dialogues is effecting a change in the listeners' diction and speech, it is quite likely that such a change may come about. Radio audiences are gradually learning to distinguish between pleasant and unpleasant voices and between correct and incorrect speech, and it is possible that in time this will influence their own manner of speech and use of language. Schools have an opportunity to benefit by the use of the radio, not only through the variety of voices that the radio affords for purposes of analysis and comparison, but also through

[6] Archibald MacLeish, Foreword, page x, *The Fall of the City*. New York: Farrar and Rinehart, Inc., 1937.

speech courses such as the Magic of Speech series and others, designed to stimulate interest and to provide practice in a correct and effective use of the spoken word.

*Cultivates the Power of Attention*

The ability to listen attentively is not easily acquired. It is even more difficult to acquire habits of concentration and discrimination while in the act of listening. The average teacher has only limited opportunities to develop these traits in her pupils. It is natural that the radio should afford advantages in this connection, first, because of the variety of voices that it brings into the classroom, and second, because of the fact that a broadcast precludes repetition and therefore demands careful attention. This function of the radio was strikingly illustrated for the writer when she attended a radio class in Cleveland. The broadcast lesson was a demonstration of "activity" instruction and called for quick, accurate responses to carefully given but unrepeated directions. The children displayed an alertness which is seldom witnessed during an ordinary lesson.

## EXPERIMENTAL STUDIES

The educational possibilities of the radio were realized almost as soon as general broadcasting became an accomplished fact, with the first educational radio programs, produced by stations KDKA and WWJ of Pittsburgh and Detroit respectively, dating as far back as 1920. Since that time, and especially since 1928 when the first so-called School of the Air was launched in Ohio, the production of school broadcasts has increased markedly, although the precise value of the broadcasts or the extent to which they are being utilized has never been clearly determined. It is difficult to establish the value of instruction by means of radio because this type of instruction does not lend itself readily to technical investiga-

tion, owing to innumerable variables and to the extreme difficulty in the segregation of experimental factors.

In spite of difficulties a certain amount of controlled experimentation with educational broadcasts has been undertaken at various times during the past decade. It is safe to say that in most of these no attempt has been made to produce scientifically exact results and that for the most part the conclusions are tentative and suggestive rather than conclusive. The somewhat informal nature of the experiments is indicated by the fact that few of them have been presented in detail; for the most part, they have been briefly summarized in the yearly publication of the Institute for Education by Radio, entitled *Education on the Air*. A number of them, constituting work for master's and doctor's theses, have not been published in any form. These and a few others have been summarized in a mimeographed bulletin of the Bureau of Educational Research of Ohio State University, entitled "Research Studies in Education by Radio—Cooperative Group." Because they have been restricted to the scope described above, it is doubtful whether these experiments contribute greatly to the solution of problems inherent in school broadcasting or whether they afford data for enlightenment and guidance.

The majority of the experimental studies were undertaken to determine the effectiveness of radio in the instruction of certain specific subjects, such as current events,[7] music,[8] political science,[9] natural science,[10] and foreign languages.[11] In most instances the findings indicate that these subjects were

[7] H. L. Ewbank, "The Wisconsin Plan for Radio Development," *Education on the Air*, 1930, and "University of Wisconsin Studies in Education by Radio," *Education on the Air*, 1934.

[8] Margaret Harrison, "Measures of the Effects of Radio Programs in Rural Schools," *Education on the Air*, 1932.

[9] Katherine Ludington, "An Experiment in 'Evaluating Radio Programs,'" *Education on the Air*, 1932.

[10] Lew Stark, "Teaching by Radio at Rochester," *Education on the Air*, 1934.

[11] F. H. Lumley, *Broadcasting Foreign Language Lessons*. Bureau of Educational Research, Ohio State University Monograph No. 19, Columbus, Ohio, 1934.

learned by radio not less effectively, but in some cases slightly more effectively, than through reading or through ordinary classroom instruction. The gains are seldom presented in figures, but are indicated by such phrases as "definite advantage inheres in the use of radio," "the radio yields decided gains," and "the children using radio learned more than the children studying without the radio."

A few of the experimental studies have yielded more specific information as to the way radio instruction affects the learning process, and have thrown some light on the psychological factors involved in aural learning. For example, the findings of an experiment conducted by D. A. Worcester indicate that objectives relating to information must be in terms of large general ideas rather than specific details, if they are to be achieved by broadcasting.[12] The findings of another experiment, conducted at the Harvard Psychological Laboratory, show that factual material is somewhat more easily understood over the radio than abstract material.[13] Taken together the results of these two experiments indicate that the radio is best adapted to the presentation of ideas that are both general and concrete. The latter study, of which the purpose was to discover the differences between a radio lecture in the classroom and the usual type of lecture, yields a number of other interesting results. It shows, for example, that about the same amount of attention is paid to each type of lecture, that the radio lecture has a disturbing effect on the habit of taking notes, that the radio lecture requires more repetition and more concrete examples than the face-to-face lecture, and that the humorous parts were found to be less amusing over the radio. A similar experiment conducted by Gordon W. Allport shows that listening to discourse in the presence of a speaker fosters

[12] D. A. Worcester, "What People Remember from Radio Programs," *Education on the Air, Annual Proceedings of the Institute on Education by Radio*, 1932. Ohio University, Columbus, Ohio.

[13] H. Cantril, and G. W. Gordon, *The Psychology of Radio*. New York: Harper and Brothers, 1935.

a better functioning of such mental processes as rote memory, memorization of meaningful material, comprehension of difficult prose, resistance to distraction, accuracy in estimating time, ability to count a recurrent word (such as *and*) in connected prose read by the broadcaster, skill in mental arithmetic, and suggestibility. The author states,

> In general, this . . . experiment indicates that certain mental processes of individuals comprising a radio audience are appreciably different from those of the same individuals when they are in the presence of the speaker. Specifically, the face-to-face situation seems to have a facilitating effect upon attention, mental work, and suggestibility.[14]

The Carver experiment[15] took as its problem a study of the relative effectiveness of visual and auditory presentation in recall, recognition, comprehension, interest, humor, and in aesthetic appeal. The study shows that visual presentation is more effective than auditory, when materials are presented which are unfamiliar and difficult to comprehend, but that the situation is reversed when the materials are easy to comprehend. As to materials of average difficulty, the results seemed to be equivalent. Other results obtained from the experiment are that for recognition auditory presentation is significantly superior to visual; that hearing short literary passages is preferable to reading them, but that auditory and visual presentation are equally desirable for short selections of poetry; that the average individual is more critical of material that he reads than of material that he hears, as measured by the ability to detect grammatical errors in sentences; and that the relative effectiveness of visual and auditory presentation for certain types of material is determined to some extent by the cultural level and training of the subject.

[14] Gordon W. Allport, "The Radio as a Stimulus Situation," *Education on the Air*, 1932.

[15] M. E. Carver, *A Comparison of the Mental Effects of Visual and Auditory Presentation.* Doctor's Thesis, 1934. Harvard College Library, Cambridge, Massachusetts. Summarized in *Research Studies in Education by Radio – Co-operative Group.*

Another experiment, conducted by Pauline K. Winkler,[16] is devoted to a consideration of psychological problems connected with the function of listening. Miss Winkler's study shows that interest, attention, the emotional state, and similar attributes of the listener affect the reception of broadcast material, indicating that improvement in the art of speaking must be centered upon the listener as well as upon the speaker. The results of the study also reveal that although not one of Miss Winkler's subjects was absolutely sure of the processes used in listening, the key to listening, as indicated by the replies, is to be found in such thought processes as analysis, synthesis, association, organization, and evaluation.

From the foregoing it is clear that the need for experimental work in educational broadcasting is practically unlimited. Leaders in the field, in general, and the members of the bureau of educational research of Ohio State University, in particular, have repeatedly called attention to the fact that more experimental work, especially of the type designed to evaluate the outcome of classroom broadcasting in terms of objectives, needs to be undertaken before significant use of the radio for educational purposes is possible.[17] A recent grant from the General Education Board will provide an opportunity for the research department of Ohio State University to undertake experimental work of this kind. The results of these studies will prove of great interest to educators throughout the country.

## PROBLEMS CONNECTED WITH RADIO

The radio presents several problems in its use as an educational aid. The most important of these are inflexibility of

[16] Pauline K. Winkler, *The Psychology of Listening*, Master's Thesis, 1934. New York State College for Teachers Library, Albany, New York. Summarized in *Research Studies in Education by Radio – Co-operative Group.*

[17] Cf. I. Keith Tyler, "Needed Research in Classroom Broadcasting," and "Factors in the Evaluation of School Broadcasts." Both of these papers were delivered before the First National Conference on Educational Broadcasting, Washington, D.C., December, 1936.

broadcasting schedules and lack of integration with specific units of subject matter.

The outstanding characteristic of radio, namely, its power to disseminate information to many places at the same moment, is at once its asset and its limitation, especially in reference to school work. Because the broadcast comes at a definite time, it necessitates uniformity in preparation by all classes which plan to make use of it. While such "regimentation" appears on the surface to be disadvantageous, the situation really resolves itself into a question as to whether the benefits which the radio makes possible outbalance the disadvantages. Although it may be undesirable to have all children of a given grade taught in exactly the same way and at exactly the same time, certainly it is not desirable to deprive these children of opportunities to receive the superior instruction that radio can provide. Gifted teachers, especially in the elementary and secondary grades, are rare. Rather than limit children to the quality of instruction, good or bad, that their respective schools afford, it would seem highly desirable to make available to them the services of unusual individuals. All the schools of Rochester, for example, and many schools outside, are benefiting from an inspiring course on art appreciation. In this instance the uniformity of instruction does not detract from the value of the lesson, and it is obvious that the artistic development of the children would not be as great under the average teacher. It is obvious, of course, that only contributions of definite merit have a legitimate place on school radio programs.

Many radio broadcasts, especially those which bring history-in-the-making and great personalities into the schoolroom, will never fit into the school curriculum. Such broadcasts should not be expected to fit; their value lies in the enrichment that they bring to the subject. On the other hand, radio programs that are specially prepared and broadcast for schools may be made to correlate closely with the formal courses of study, as is shown by the experiments in Madison, Rochester, and

Cleveland. Probably there will never be complete correlation between a series of school broadcasts and the class work, but the value of the broadcast should be determined, not only on the basis of its direct contribution to the curriculum, but also in terms of the interests it arouses, the activities it stimulates, and the attitudes it creates.

CHAPTER VII

# Educational Projects in Radio Broadcasting

ALTHOUGH neither the value nor the best method of teaching by radio has been conclusively demonstrated, enterprises in educational broadcasting have been many and elaborate. This fact, while interesting in itself, is the more striking when it is realized that progress in such broadcasting activities proceeded in large part without the advantage of privately owned educational stations. Indeed the history of such stations indicates a reverse trend. Whereas there were one hundred twenty-five educational stations in 1925, this number had been reduced to thirty-eight by December, 1936.[1] The cause for the decline can be attributed to the difficulty encountered by educational institutions in competing with commercial stations, especially as regards meeting requirements relating to technical equipment and to the use of air time.

It would be difficult to mention all the educational activities to which radio has been applied, for there is scarcely an educational organization that has not at one time or another attempted some undertaking connected with radio as a teaching device. Such national organizations as the American Association of Museums, the American Association for Adult

[1] S. E. Frost, "The Licensing of Educational Stations: a Retrospect," and Harold B. McCarty, "Why the Educational Radio Station?" addresses delivered before the Institute for Education by Radio, Columbus, Ohio, May, 1937. *See also* S. E. Frost, *Is American Radio Democratic?* Chicago; University of Chicago Press, 1937.

Education,[2] the American Historical Association, the Association of Land Grant Colleges, the National Association for American Speech, the National Education Association, the National Congress of Parents and Teachers, to mention but a few, have promoted education by radio, made use of the radio or given consideration to the radio as a teaching aid. Organizations of less than national scope which have experimented with the radio as an educational medium are found in practically every state in the Union. The use to which radio has been put varies from that in Syracuse, where the children in the public schools have entered competitive tests, known as general knowledge tests devised by station WFBL, to that of such an elaborate organization as the American School of the Air. Some of the most significant of these ventures will be described in the following paragraphs.

## NATION-WIDE PROJECTS

### *Activities of the Federal Government*

The United States Office of Education, under the direction of William D. Boutwell, promotes the use of radio for educational purposes in a number of ways, the more important of which are educational broadcasts, radio scripts, and radio workshops. The following are among the outstanding broadcast series: The World Is Yours, which is produced in cooperation with the Smithsonian Institution and is a series of talks on such topics as coins, musical instruments, and botany; Have You Heard?, which deals with curious and interesting facts in the field of general science; Education in the News; and Let Freedom Ring, which deals with the struggles of the American people for civil liberties. Some of the titles of the last mentioned series are Trial by Jury, Free Assembly, Women's and Children's Rights, and Free Press.

[2] Frank Ernest Hill, *Listen and Learn.* New York: American Association of Adult Education, 1937.

During the winter of 1937–38 the Office of Education, in cooperation with the Columbia Broadcasting System, dramatized Latin-American life and problems in half-hour broadcasts. These broadcasts, entitled The Brave New World, were intended to promote the "good neighbor policy" of the United States. The programs included Conquistadores, The Empire of the Sun, and The Magnificent Mayan. Cooperation was developed with secondary schools of the country through the publication of material to accompany each broadcast, giving a brief outline of historical material, maps, and reading lists.

The radio scripts prepared by the Office of Education are for the use of schools and school systems. One important series in this group is entitled Interviews with the Past. These radio scripts are imaginary interviews on current social problems between certain modern fictitious characters and such historical personages as George Washington, Catherine the Great, and William Shakespeare.

Another important series of the script exchange division of the Office of Education consists of several fifteen-minute programs on municipal government which are intended for distribution to local radio stations throughout the country. The purpose of this service is to instruct the layman in the functions of municipal government, each program being designed to bring out effectively the role of one or more departments of government in the life of the community. For example, one script deals with the public works department and shows in dramatized form how indispensable it is to the citizen, making it unnecessary for him to attend to such matters as the disposal of sewage, the clearing of roads from snow and ice, the repairing of pavements, and the supplying of water. Those interested in the project hope that these broadcasts will serve to arouse interest in local government and to induce citizens to be actively concerned with the efficient administration of local government.

The United States Office of Education has established a radio workshop in cooperation with New York University for the purpose of improving educational broadcasting techniques. The workshop trains students in script writing, in directing radio programs, and in acting. In addition, the students of the workshop are afforded opportunities to work with committees on radio problems, and to attend rehearsals and performances of some of the programs presented by the federal Radio Project in the studios of the National Broadcasting Company and the Columbia Broadcasting System.

Still other radio activities are undertaken by the federal government. Outstanding among these is the National Farm and Home Hour, produced under the joint auspices of the United States Department of Agriculture and the National Broadcasting Company, and broadcast daily except Sunday over the blue network of the latter. Another interesting series, broadcast by the United States Department of Commerce, is entitled Stories of American Industry. Each program in this series relates the human drama found in the background of one great American industry.

*Activities of National Broadcasting Company*

The National Broadcasting Company's educational department has restricted its activities, with the very significant exception of the Damrosch School of Music, and more recently of the Raising Your Parents series of broadcasts, to adult education and to the task of giving publicity to schools and to organizations by broadcasting information about their various interests and activities. The director of the department said, "It is difficult to plan broadcasts for the elementary and secondary schools because no one has as yet definitely determined what the nature of such broadcasts should be." Thus, while the National Broadcasting Company for years has been offering such educational series as Great Moments in History, The World To-day, The Magic of Speech, the Metropolitan

Opera Broadcasts, the Symphony Orchestra concerts, America's Town Meeting of the Air, it has not, with the exception already cited, attempted to produce broadcasts expressly for the public schools of the country. The types of broadcasts enumerated above, although educational, have been intended for adult groups; they have not been handled especially by educators, nor have they been fitted into any directed educational plan. That the importance of having a well considered plan is being realized, however, is shown in the recent appointment of James Rowland Angell, President Emeritus of Yale, as educational counselor to the National Broadcasting Company.

Among the broadcasts mentioned, America's Town Meeting of the Air deserves special mention as a novel form of radio broadcasting. This enterprise was initiated in 1935 with the cooperation of the League for Political Education and the National Broadcasting Company. It is an interesting adaptation to radio of the method used by the old town meeting, when various persons spoke on controversial subjects, after which the audiences asked questions. The broadcasts are actual meetings conducted in the Town Hall in New York City. The speakers are chosen by the League of Political Education with the approval of the National Broadcasting Company. Air time and other expenses are borne by the Company. The programs of 1936 included discussions on labor, problems of international relations, relief, taxation, social security, national planning, use of propaganda, and other major topics. The meeting which caused the most comment, provoking a record-breaking mail response of fourteen thousand letters in one week, was the three-city discussion of the President's Supreme Court proposal. New York, Washington, and Chicago were united in one hookup so that speakers and audiences in each city jointly debated the President's plan while the nation listened. Another popular program was the debate between Norman Thomas and Madame Olivia Rossetti Agresti on the subject,

"Can Democracies Avoid Dictatorship?" during which Madame Agresti defended Fascism.

The Town Meetings have met with great success. A news release, dated May 7, 1937, stated that letters had been received from nearly forty thousand listeners, all expressing praise for and appreciation of the project. Its merit is further attested by the fact that it received one of the Women's National Radio Committee awards for 1936. At the 1936–37 meetings, during which season twenty-four broadcasts were given, the average audience in Town Hall was over twelve hundred.

The importance of this type of broadcast is hard to estimate. Whether or not the radio is effective in any other respect, it certainly must be conceded that it is to-day one of the greatest means of promoting discussion concerning questions of economy and government. Unfortunately, the nature of radio as a one-way means of conversation permits the speaker to present his arguments as he wishes, with opportunity to avoid issues, misrepresent facts, and distort truths. In contrast, in the public meeting the speaker must face his opponents openly and be prepared to answer questions and objections from the audience. Such conditions promote accuracy and directness on the part of the speakers, free discussion and clarification of ideas, and a frank consideration of conflicting points of view. The radio, on the other hand, since it does not readily lend itself to debate, tends to limit joining an issue at a given time and place.

The radio need not be restricted to a one-way form of discussion. The Town Meetings on the air and some others show that it is possible to present conflicting viewpoints by means of the radio, and even to provide opportunity for the thrashing out of points of view in the presence of actively critical audiences. Under such conditions the speakers must be prepared to defend all of their statements and to answer well-informed opponents immediately and intelligently.

The value of the radio forum, as indeed of any forum, depends upon the extent to which varying points of view on any given issue are actually represented. No clever debate between two prejudiced opponents, defending the extremes of diametrically opposed points of view, will result in a clarification of ideas or the formation of a constructive position with regard to a given problem. For beneficial results it is necessary to sacrifice the clever and the spectacular for the genuine and the sound. At least during the early stages of its development the Town Meeting endeavored to fulfil this requirement of the successful forum. It brought together the opinions of people from many walks of life and afforded opportunities for real discussion. A study of the speakers' occupations reveals that in addition to lecturers, economists, political officeholders, and writers, there were included among the speakers of the 1936–37 season a retail store merchant, a housewife, a college president, a band leader, a union organizer, a judge, a farmer, a labor leader, and a public relations counsel. One of the speakers of this period comments on this feature of the Town Hall of the Air as follows: "When I was debating with Secretary Perkins, the thought that was always uppermost in my mind was that this is really an amazing land, where a journalist can debate with a Minister of State. Can you imagine a journalist in Berlin debating with Herr Goebbels?"[3]

The Damrosch musical broadcasts are arranged by the educational department of the National Broadcasting Company and are definitely designed for elementary and secondary schools, although they are listened to regularly by large adult audiences. This series of concerts was started in 1928, which was two years after the National Broadcasting Company had been organized and had begun the operation of large networks of stations. It was launched under the sponsorship

[3] George Sokolsky, "Let's Talk It Over," in *New York Herald Tribune*, May 4, 1936.

of the Radio Corporation of America, whose advisory committee included a number of well-known educators and musicians. The programs, well received throughout the country, have been continued to the present time and have been arranged to serve the needs of children at several grade levels. These programs have enriched the lives of millions of children and adults and must be regarded as one of the most significant experiments with supplementary instruction by radio.

The Raising Your Parents series, inaugurated in 1936, is a juvenile forum on personal problems. Other educational programs of the National Broadcasting Company are the Home Symphony, which consists of instruction in band instruments, actually permitting listeners to play with an orchestra in their own homes, and Tales from the Opera, which is a program given on Wednesdays as preparation for the Saturday afternoon grand opera broadcasts. Still other educational series provided by the National Broadcasting Company are A Trip to Our National Parks and, during the spring of 1937, Shakespearean Dramas. In addition to providing broadcasts of educational character, the National Broadcasting Company, as do all broadcasting companies, lends its facilities and provides air time to various organizations for the production of educational programs.

*American School of the Air*

The Columbia Broadcasting System operates a national system of stations over which numerous educational features are offered annually. Some of these have been described in the preceding chapter. Others are the broadcasts of the New York Academy of Medicine, the broadcasts of the National Student Federation, the concerts of the New York Philharmonic Society, the Living Dramas of the Bible broadcasts, and Everybody's Music. The latter series is devoted to orchestral renderings of every type of music, including com-

positions prepared specifically for the radio.[4] Among the educational broadcasts[5] of this system is a series of programs, known collectively as The American School of the Air and designed expressly for the classrooms of the nation. The American School of the Air, with the cooperation of a Board of Consultants and a Cooperating Committee, was launched in 1929, and has been continued regularly to the present time. The following schedule, setting forth the weekly items, indicates the general nature of the venture.

THE WEEK OF THE AMERICAN SCHOOL OF THE AIR[6]

| | |
|---|---|
| Monday | History (High School) |
| Tuesday | Music and Literature, alternating (High School) |
| Wednesday | Geography (Intermediate Grades) |
| Thursday | Elementary Science and Literature, alternating (Intermediate Grades) |
| | Music (Primary and Intermediate Grades) |
| Friday | Current Events (High School) |
| | Vocational Guidance (High School) |

The 1937–38 schedule includes a course entitled Exits and Entrances which consists of programs that feature world news, describe its historical background, and evaluate its significance. This series, sponsored by the National Education Association, has been widely praised. Another series introduced for the first time during the current season is the Human Relations Forum. This series, produced by the Commission

[4] In 1937 the Columbia Broadcasting System invited five composers of repute to write, "in whatever form you please," music which the composer believed to be specifically adapted to broadcasting. At the same time another composer was requested to write a twenty-nine-minute radio opera.

[5] The Columbia Broadcasting System has formed an Adult Education Board under whose guidance it expects to launch a series of educational programs in evening hours reserved specifically for that purpose. This new board will have complete freedom in determining the type of adult education programs to be broadcast.

[6] Columbia Broadcasting System, *Teachers Manual and Classroom Guide for 1936–37.*

on Human Relations of the Progressive Education Association, consists of discussions about problems of human living, which are carried on by student groups under the leadership of the Commission. The object of the broadcasts is to stimulate listening groups to discuss the same points and thus to clarify their ideas on human relationships, particularly those which most intimately concern their lives. Some of the questions to be discussed are: What are the major causes of personal unhappiness? How can trust between the generations be built? How much do appearances count? Where shall we look for beliefs and life philosophies?

It is too early perhaps to evaluate the programs of the American School of the Air. However, they have been used over a period of several years, and if the earlier programs had been totally valueless, the latter ones would probably not have been projected.[7] The criticisms made against them indicate that they need to be changed in certain respects if they are to meet specific school needs. The programs which received special praise were those on music, vocational guidance, and current events.

*The University Broadcasting Council*

The work of the University Broadcasting Council is an important example of experimental activity in education by radio. This organization, which includes the University of Chicago, De Paul University, and Northwestern University, was formed in 1935 for the purpose of furnishing a comprehensive public broadcasting service. It is carried on in cooperation with the National Broadcasting Company, Columbia Broadcasting System, Mutual Broadcasting System, and affiliated networks, the Rockefeller Foundation, and the Carnegie Corporation. The programs of the Council include lectures, round-table discussions, and dialogues on

[7] A survey conducted in April, 1936, revealed that American School of the Air programs were heard by 54.9 per cent of all radio homes.

a variety of topics, and, in particular, on current questions of economy and government. More recently dramatic and musical productions have been added. While primarily planned for adults, the programs may be regarded as significant for public schools, since they can be assigned as homework, and may arouse general extracurricular interest. Some of the broadcast series of the University Broadcasting Council are the Chicago University Round-Table, Science in the News, The Old Judge, Men of Destiny, and the Government and Your Money.

*National Advisory Council on Radio in Education*

The National Advisory Council on Radio in Education, under the direction of Levering Tyson, formerly director of the Council, inaugurated a series of educational broadcasts in 1931. These broadcasts, discontinued early in 1936, stand out as among the most significant of the experiments with educational broadcasts. The outstanding program presented by the Council was the You and Your Government series, prepared in cooperation with the American Political Science Association and the National Municipal League. These broadcasts were devoted principally to government problems and covered a wide range of subjects in this field. They included lectures, dialogues, interviews, and round-table discussions, and drew as speakers some of the most eminent specialists in the country. Other important series broadcast by the Council were American Labor and the Nation, The Lawyer and the Public, Art in America, and the Changing Social Order.

*World-Wide Broadcasting Foundation*

The purpose of the World-Wide Broadcasting Foundation, which is a nonprofit organization, is to cultivate the spirit of international understanding and to promote enlightenment

generally through the use of the radio. This organization operates a powerful short-wave station, WIXAL, in Boston, and provides broadcasts, in cooperation with educators in many institutions of learning in and about Boston, including Harvard University and Boston University, on literature, drama, language, music, science, art, world affairs, the problems of peace, and numerous other subjects. The broadcasts consist of individual talks, related groups of lectures, and organized courses of study. The special interest of the organization being world-wide broadcasting, its program service includes broadcasts at hours adapted to all the time zones around the globe. In this connection the station makes electrical transcriptions of original lectures given before college audiences, and these are later rebroadcast from discs to listeners in Europe. The enterprise is financed by voluntary contributions from individuals and by a yearly grant from the Rockefeller Foundation.

*The National Education Association*

The National Education Association presents several important broadcast series as part of its educational program. One is the Saturday morning program for teachers, broadcast by the National Broadcasting Company; another broadcast by the same radio company is on subjects dealing with education but intended for a general audience. The 1937–38 program of the Association includes the series on current events, entitled Exits and Entrances, which is designed as a feature of the American School of the Air for secondary school students.

*Cooperative Enterprises*

There are many radio programs designed for special public instruction that are prepared and sponsored by groups of allied organizations, for example, the programs of the University Broadcasting Council. Another outstanding example

of this type of educational venture is the series of broadcasts entitled Safety Musketeers, presented over the Columbia Broadcasting System network every Monday afternoon. This series presents the adventures of a group of young Americans as they learn to protect life and property from accidents, and is produced in cooperation with various national organizations. Similar ventures have been attempted in other fields.

### COOPERATIVE REGIONAL ENTERPRISES

Under the leadership of the National Committee on Education by Radio, a cooperative plan has been developed, the purpose of which is to bring together the resources and services of broadcasting, educational, civic, and other agencies in a given region with a view to providing to listeners a wider variety of programs possessing greater regional significance. Preliminary exploration of the possibilities of this idea is being undertaken in two strategic regions, namely, the Rocky Mountain Region and Texas. In each the cooperating organizations and institutions seek to discover the peculiar facilities of their area for radio, and to utilize these facilities in a socially desirable radio program. Each region will include in its program a variety of enterprises, for example, school broadcasting, broadcasting on agricultural, economic, health, and other problems, and training students in script writing and in producing broadcasts. Each enterprise will be a research project working through a responsible organization which should guide it and integrate it with other projects. Each enterprise will also have the advantage of expert assistance from related agencies and broadcasting companies. These cooperating agencies include state and private colleges and universities; state and local departments of education; library, teacher, farmer, public health, and parent associations; clubs of various kinds, and national and local broadcasting stations.[8]

[8] *Education by Radio*, 7: 49–54, November, 1937.

## STATE AND LOCAL ENTERPRISES

It is natural that the states and smaller geographical areas, as well as organizations of national scope, should have ventured into the field of broadcasting for educational purposes. The general educational programs of these organizations and those of the commercial companies are not, for the most part, directly applicable to classroom use. Even the broadcasts planned specifically for school use are not always easily adapted to the courses of instruction. It is a generally accepted fact that if instruction by radio is to develop and demonstrate its maximum usefulness, it must be based upon the known needs of schools and must be integrated with regular school work. Efforts were exerted by local stations throughout the country from almost the beginning of radio to meet these needs. Among the first experiments in classroom instruction by local school authorities were the California public school broadcasts in geology and history in 1923, and the radio lessons in accounting during the same year in the Haaren High School of New York City. Another early experiment was made in the schools of Oakland, California, where eight demonstration lessons in that number of subjects were broadcast to the Oakland schools. During the next few years experimental work of this character was undertaken in various centers throughout the country.[9] Among these, three or four stand out as major undertakings.

### *The Ohio School of the Air*

The Ohio School of the Air was the first experiment in the use of radio in the public schools of the United States to receive adequate financial support from a state government. It was organized in 1927 and the first programs were launched during the school year 1928–29. The enterprise was made

[9] Data collected in the Office of Education indicate that two hundred schools in the United States are broadcasting, or recently have broadcast, series of radio programs.

possible through the financial assistance of the Payne Fund, which provided the services of a director, and through the cooperation of the Ohio State University, which gave the use of its broadcasting station without charge and which, through its Radio Workshop, assisted in various other ways, especially in developing new radio techniques, adapted to education, and of Station WLW of Cincinnati, which provided free radio time. Other assistance was derived from public persons who volunteered speeches and from the state director of education, who devised ways of helping the individual schools to cooperate and assisted in working out suitable educational programs. When the Ohio School of the Air had sufficiently demonstrated its usefulness, the State Legislature appropriated forty thousand dollars to carry on the project for two more years.

After such auspicious beginnings, it is disappointing to find that the Ohio School of the Air has not produced more outstanding results. While a great many series of programs were produced each year, they were, in part, lacking in quality and little related to classroom studies. Gradually the legislature withdrew its financial support. By 1936, the budget from the state was only four thousand dollars and active cooperation in the planning of the programs from the Education Department had practically vanished. The teachers and other school authorities no longer shared in the preparation of the programs and were not called on to assist in evaluating the results of the broadcasts. In 1937 the whole venture was discontinued, although Station WLW of Cincinnati, which had been an active participant in the project, has continued to furnish broadcasts suitable for school use.

*Wisconsin School of the Air*

Wisconsin owns two radio stations, one of which, WHA in Madison, originally owned by the University of Wisconsin, is the oldest educational station in the United States. The

other station, WLBL, is located at Stevens Point. Both of these stations are available to the Wisconsin School of the Air for its task of broadcasting to the Wisconsin public schools, and although both are used, Station WHA is the one through which most of the work is accomplished. Although the University still owns the facilities of the station and the directing committee of the school is composed of members of the university faculty, the project is not regarded as a university enterprise, but distinctly as a feature of the general state educational system. The financial grant for the station is received directly from the state legislature, which fact is perhaps responsible to a great extent for the wide state interest which the project enjoys. The broadcasts are all officially approved for classroom use by the State Department of Public Instruction and by the Wisconsin Education Association. The latter organization is represented by a special committee on school broadcasting, composed of nine teachers and principals from various schools of the state. The State Department participates in the planning of these programs through a member of the state superintendent's staff, and the teachers on the committee of the Association are actively at work drafting radio programs and devising lesson aids.

All the conditions surrounding the Wisconsin School of the Air have been favorable for progress and, under the able leadership of its director, it has attained remarkable success, as evidenced by the increasing response it has received from the Wisconsin schools. This fact is the more significant when it is remembered that the project is carried out through the school's own station, which means that many broadcasts have to be offered daily to comply with federal requirements. The success of the enterprise, together with the fact that it has been in operation long enough to be appraised, makes the Wisconsin School of the Air an ideal place to evaluate school broadcasting on a state-wide scale from the standpoint of its technical, administrative, and pedagogic aspects. In fact, such

an appraisal is being actually undertaken at the present time through the Wisconsin Research Project in School Broadcasting. This research enterprise, which was organized with the assistance of the General Education Board, is directed by the Graduate School of the University of Wisconsin in collaboration with the State Department of Public Instruction, the Wisconsin Education Association, and the State Board of Normal School Regents. The purpose of this project is to determine through demonstration and evaluation the place of radio in the classroom, to devise methods for its most effective use, and, in particular, to discover the role of the state in the administration of a school radio program. With such favorable conditions as those outlined, the project should produce important results and should therefore have value for future state experiments.

Among the best programs of 1935–36 were Afield with Ranger Mac, Professor Gordon's Journeys in Music Land; and Let's Draw, broadcasts about creative art. One of the latter broadcasts, A Mystic King of the North, received the award given for the best program entered as a directed classroom activity in the First American Exhibition of Recordings of Educational Programs, a feature of the Eighth Annual Institute for Education by Radio. The 1937–38 program includes a series of broadcasts for upper high school classes entitled English As You Like It. These programs, which are prepared by the Wisconsin Research Project in School Broadcasting in cooperation with the Wisconsin Education Association, are intended as experiments to discover the value of radio in the study of English literature and composition.

The Wisconsin radio unit includes also the Wisconsin College of the Air, which provides various broadcasts of interest to adults. This organization, in cooperation with the National Youth Administration, inaugurated a radio group-listening project in August, 1936. Since this time many listening groups have been established among the youth of

the National Youth Administration and in community centers. The main objective of the group-listening project is to bring a high grade educational opportunity to those young people who cannot continue their schooling and to those adults who desire to form listening groups.

*Cleveland School of the Air*

Radio broadcasts are used in Cleveland much more definitely as part of the general school system than they are anywhere else in the country. This is explained by the fact that the purpose of the Cleveland project is not so much to supplement the subject matter of the regular school courses as to provide demonstration lessons in teaching. The weekly broadcast in a given subject is intended to serve as a model lesson for the teacher and as a point of departure for the week's work, but especially the former. As the director of the school said, "The purpose of the radio lesson is to show the teacher what can be done with fifteen minutes of school time." The broadcasts therefore are supervisory tools by means of which superior teachers and heads of departments demonstrate methods of teaching to many schools simultaneously and so increase their own effectiveness and provide a stimulus to teachers in the use of progressive techniques. The programs are of course planned to fit very closely into the courses of study and to meet specific needs in local schools. They are, in addition, tried out before being actually broadcast to the schools. For this two schools are used as special laboratories. This experimental period is not a general practice, although the Rochester school and one or two others made use of it during the early years of their experiments. It was discontinued in these schools because it was found that the procedure did not aid much in perfecting the broadcasts. The system continues in Cleveland for the purpose of perfecting the timing of the broadcasts, rather than to perfect the broadcasts themselves.

The broadcasts include practically every subject—English, music, geography, science, arithmetic. Not one of the series has ever been a lecture course. They are all examples of typical classroom procedures. The voice from the loudspeaker explains, directs, asks for information, and so on. The classroom teacher has to follow the lesson closely, for many times during the fifteen-minute period he is called upon to appoint a member of the class to execute an act, to answer a question, or to recite something that has been previously memorized.

During recent years the commercial station WTAM has contributed the time for the programs. In the future the Cleveland school system will broadcast its radio lessons over its own private ultra-high-wave radio station. This experiment will be the first of its kind in this country.

*Chicago Emergency School of the Air*

An epidemic of infantile paralysis in Chicago has brought about a unique experiment in education by means of the radio. Unlike the projects just mentioned where the radio lessons are broadcast to the schools, this experiment was designed to bring instruction to children in their individual homes during the period of the enforced closing of the schools. The experiment was confined to the elementary schools and the assistant superintendent in charge of elementary schools was entrusted with the task of initiating, programming, and checking the work. Four major subjects were chosen: mathematics, English, science, and social studies for the fifth to the eighth grades inclusive, and the selection of materials for each subject, the planning of the continuity of the lessons, and the responsibility for the broadcasts were all in the hands of committees of educators. In addition, a committee of two principals was appointed to listen to all broadcasts and to make suggestions for their improvement. The chart, used as a basis for their comments, provided for a rating of each broadcast on nineteen points—articulation of words, suita-

bility of vocabulary, and the thought and interest-stimulating qualities of the presentation. A digest of each lesson to be broadcast, including directions, questions, and assignments for pupils appeared each day in the newspapers. In the absence of books this article served as a text. Approximately eighty-six thousand children listened in on the radio lessons.

After school opened, part of the children were tested by committees of educators, none of whom had given any of the broadcasts, on the first week's work. The results of these experiments, while not final, indicate that the seventh and eighth grades profited more from the broadcasts than the fifth and sixth grades, and that the radio had a greater effect on the scores of pupils in English, mathematics, and social studies than on the scores in natural science. The Radio Council, which is developing plans for the use of radio in connection with the regular public school program of Chicago, is a direct outgrowth from the emergency enterprise.

## RADIO PROJECTS IN NEW YORK

Although New York State does not have a state school of the air, a number of educational radio projects are carried on by the State and by local institutions, by various civic organizations, and by privately endowed educational institutions. These vary widely in nature and scope.

### *Rochester School of the Air*

The Rochester School of the Air is one of the most important experiments in city-wide educational radio service. Although concerts of the Rochester Civic Orchestra were broadcast to schools as early as 1929, no further radio activities were undertaken until 1933, when the first series of science, geography, and civics lessons were broadcast for reception in schoolrooms. The programs are planned and supervised by the administrative staff of the Rochester Public Schools under the direction of Paul C. Reed, who is supervisor of

both visual and radio education. Air time and facilities are donated by two commercial stations, WHAM and WHEC. Of these, WHAM, the larger station, is the most used. It is equipped with a 50,000-watt transmitter and has a wide listening range. Satisfactory reception from this station has been reported from as far as one hundred twenty-five miles away. The radio time contributed jointly by these two stations is about four hours a week.

Because the administration of the School is in the hands of city school officials, and since most of the broadcasters are teachers and supervisors in the Rochester public schools, there has naturally resulted, at least in certain fields, definite integration of radio broadcasts with the courses of study prescribed for Rochester schools.

The Rochester School of the Air, in addition to the service it renders, has proved a valuable agency in coordinating the activities of the public schools with the educational activities of the following three established community institutions: the Rochester Civic Music Association, the Rochester Public Library, and the Rochester Museum of Arts and Sciences. These institutions give broadcasts to the schools on music appreciation, books, and geography respectively.

The courses which were presented over the air during the school year 1936–37 are as follows: science for the fourth, fifth, sixth, and seventh grades, history for the fourth grade, "Books" for the fifth grade, social relations for the fifth grade, civic orchestra concerts for fifth, sixth and seventh grades, art appreciation for the sixth grade, Affairs from Afar for the seventh grade, guidance for the seventh grade, and Library Talks, concerts, Science and You, and Affairs from Afar for high schools. There were over one hundred hours of broadcasting during the school year. Excellent results were obtained in the news broadcasts, art appreciation, and symphony concerts, and good results in the library talks and in the course in science for the seventh grade.

In 1937–38 the total enrollment for radio lessons for Rochester elementary schools was thirty thousand four hundred and ten, and for out-of-town elementary schools, twenty-two thousand seven hundred and thirty-four. These enrollments represent attendance at forty-six city schools and one hundred twenty-five schools outside of the city of Rochester. School children from the following towns listened to the Rochester programs: Elmira, Batavia, Dansville, Ithaca, Oswego, Watertown, Binghamton, East Aurora, Cherry Valley, Oneonta, and Belleville, Canada, to mention but a few.[10] These distant schools, especially those in rural sections, have expressed appreciation for the broadcasts and also for the feeling of kinship with the rest of the educational system in the State which the broadcasts afforded them. The Rochester School of the Air has always welcomed the interest of these distant schools, and especially arranged on May 22, 1935 a school broadcast whereby through a short-wave transmitter installed in a one-room school south of Rochester, a two-way conversation was carried on between city and county pupils and teachers.

The cost of the Rochester project cannot be readily estimated because the budget for the school of the air is not kept separate from that for the whole school system.

*Broadcasting at Cornell University*

No systematic radio program is given by Cornell University. However, the extension departments of the New York State Colleges of Agriculture and Home Economics, located at Cornell, are using radio broadcasts as an increasingly important channel for disseminating facts, and especially for attracting attention and stimulating interest in the topics with which they deal. The programs are broadcast over station WESG. They are intended primarily for farm families

[10] These statistics are all authenticated on the basis of individual class enrollments with the Rochester School of the Air.

and employ about one hundred twenty hours of broadcast time each week.

These extensive teaching and publicizing activities are accomplished by the following methods: talks, interviews, and discussions by members of the resident staffs of the colleges; programs by county extension agents and their cooperators; manuscripts prepared by the colleges for presentation by radio station personnel; market reports and other matter furnished by state agricultural departments; *Farm Flashes* and other publications from the Federal Department of Agriculture; the chain broadcast by the National Farm and Home Hour; and various combinations of these.

In addition to broadcasting over WESG, the radio activities of Cornell University include also a syndicate service to twenty-five New York State stations. In this service the University issues broadcasts including from three to seven items a day on topics concerning current agricultural and home economics. These syndicated materials are distributed by mail, or, in case of emergency, through a direct teletype conference hookup from the Cornell office to the stations in various parts of the State. During the winter of 1937 the station director also experimented with the short wave in broadcasting agricultural programs for reception in other countries. The purpose behind the experiment was promotion of good will between educational institutions in different countries and the development of international interests in agriculture.

*WPA Adult Education Program of the Board of Education, New York City*

The objectives of this radio project are: publicizing the project; incidental teaching; stimulating intellectual curiosity through broadcasts on the physical sciences and social sciences; cultural stimulation through broadcasts on the drama, poetry, and art; developing a sense of good citizenship

through broadcasts on current topics concerning government policies and international relationships. The titles of some of the series are: Old Lamps with New Lights, English for Beginners, Facts in Literature, Your Leisure Time, Dramatic Moments, Interior Decorating, and Streamlined English. There are several courses in foreign languages—Yiddish, Italian, Spanish, and German—dealing with the proper employment of leisure time. There are courses in these same languages which aim to teach English. It was estimated that in July, 1937, 2,761 persons were learning English by means of these courses. Courses are also given in commercial subjects, such as shorthand and legal dictation, and courses in civil service preparation, naturalization, and a people's forum of the air. The total registration in the WPA radio division for July 30, 1937, was four thousand eight hundred and twenty-four.

*Station WNYC, Municipal Broadcasting*

The station WNYC is owned by New York City. Its programs are all sustaining and are provided "for the instruction, enlightenment, recreation, and welfare of the inhabitants of the City." The station includes among its features a consumers' guide,[11] a foreign affairs forum, a national travel club, health talks, a police department safety program, many musical programs; and through the WNYC School of the Air, courses in shorthand dictation, courses in foreign languages, a course entitled Dramatic Moments, and one entitled Civil Service Preparation. The latter courses are prepared by the WPA project of the New York City Board of Education. The station cooperates with other institutions, organizations, and state and city departments. For example, health talks are provided by the state and city departments of health and by the New York Tuberculosis and Health Association; instruc-

[11] This service, which protected the consumer against fraud, was eliminated in October, 1937, through an action of the Board of Estimate.

tion in speech and workshop plays by New York University; and safety talks by the New York Police Department.

*Station WEVD, University of the Air*

As its slogan indicates, this station limits its appeal to the intelligent few. It proceeded to build up an audience first by tying up with publications and organizations. Among such publications are the following: *The Nation*, *The World Tomorrow*, *The Survey-Graphic*, and *The Birth Control Review*. Among the organizations are the following: League for Independent Political Action, Henry Street Settlement, Young Men's Christian Association, and League for Industrial Democracy. WEVD states that "Through the creation of programs of special interest to the readers of these publications and members of these organizations, we were very soon able to number their thousands as part of the WEVD audience."[12]

The distinctive feature of station WEVD, however, is its University of the Air, with a number of courses in various subjects. The beginning of this venture was made by Hendrik Willem van Loon with his series of broadcasts on history. The response to this was so great that the station authorities decided to extend the curriculum to include a variety of courses. Among the outstanding courses and their participants may be mentioned: philosophy under the supervision of John Dewey; psychology under the direction of John B. Watson; music by Henry Cowell and Sigmund Spaeth; literature and drama by Carl van Doren, Fannie Hurst, Heywood Broun, Gilbert Seldes, and The Group Theater acting company.

*Long Island University of the Air*

Long Island University offers to the public the following series of college courses conducted over station WNYC:

[12] George Field, "Programming for the 'Few,'" a reprint from *Broadcast Reporter*, April 15, 1937.

Everyday English, Better Speech, and Survey of Knowledge. The last-mentioned course includes lectures on philosophy, physics, chemistry, biology, psychology, education, sociology, and anthropology, and many other subjects, the purpose of the course being "to seek a philosophic correlation for the modern world."

*The University of the State of New York*

The Child Development and Parent Education Bureau gave a series of radio talks in the 1935–36 season on the preschool child and the adolescent child. Some of the titles of the talks were Off to a Good Start: the Child's Equipment at Birth, Directing His Energy, and Learning to Get Along with Others.

In 1936, this division gave a series of radio sketches, each of which was intended to raise questions concerning some fundamental aspect of family relationships. The foreword states: "It is hoped that families and parent education groups in the State will use these sketches as bases for discussion of some of these fundamental issues."

In 1937, the State Museum gave in cooperation with the Rural Education Division over Station WGY a series of six broadcast on such subjects as Botanical Work of State Museum, Spring Birds, Ground Water and Rural Wells, and One Hundred Years of Scientific Study.

*Syracuse University*

Syracuse University has two commercial stations at its service for the broadcasting of educational radio programs. The schedule of broadcast series for the 1937–38 season included such programs as: The Short Story, History at Home, and Handling People.

The program also included musical broadcasts, lectures by the Health Association, the Parent Teachers Association,

Community Chest, and various other civic, philanthropic, and educational organizations.

*Broadcasting Activities at the University of Buffalo*

The radio program of the University of Buffalo is not extensive, but it is interesting. It consists of a series of fifteen-minute papers read by the faculty on medical and pharmaceutical subjects, and a series of half-hour episodes of a story of the fur trade on the Niagara frontier. The historical materials for the latter program were checked and approved by the University's history department, which also furnishes reading lists for those who wish them.

*American Museum of Natural History*

Weekly broadcasts are made from the Hayden Planetarium. In former years the museum itself provided broadcasts and invited the public to attend tours of the museum. For each of these tours a different section of the museum was described. These broadcasts had to be discontinued because more people wished to attend the tours than could be accommodated.

During the fall of 1937 the American Museum of Natural History, in cooperation with the Columbia Broadcasting System, presented a series of programs on exploration as part of its Ten-Year Development Plan. The series, entitled New Horizon, enlisted the talent, not only of the explorers and scientists attached to the Museum staff, but also of other internationally famous scientists and explorers.

*St. Lawrence University: Station WCAD*

The main purpose of this radio station is to give students training in all phases of radio technique: engineering, script writing, and broadcasting. The station is on the air an average of two hours each day and broadcasts from nine to ten programs every week. Broadcasts on agricultural subjects are a particularly successful feature and are included in the

program the year round. The radio workshop prepares and presents dramatizations of historical events in northern New York, and students of the University broadcast news, both local and foreign, science news, musical programs, and plays prepared by the various clubs, for example, From the Earth to the Moon, which was presented by the Astronomy Club of the University on November 7, 1936. Members of the faculty also participate in broadcasts, and organ recitals, lectures, and talks are given by various teachers during the school year.

Faculty members of Clarkson College of Technology at Potsdam, the Potsdam State Normal School, and the New York State School of Agriculture at Canton also present broadcasts on various miscellaneous subjects.

*Rensselaer Polytechnic Institute*

Station WHAZ is maintained as part of the laboratory equipment in communication engineering and is regarded as an important adjunct to the technical research program of the school. Broadcasting itself is an item of lesser importance, the most important radio feature being a series of radio talks by members of the faculty on cultural topics and on technical subjects of interest to engineers. The following are illustrative of the fifteen-minute faculty talks for the school year 1936–37: Early Presidential Elections, Casual Reading, and New Things in Physics.

*State Department of Health*

The Public Health Education Division of the New York Department of Health undertook the broadcasting of a series of weekly five-minute health talks over station WGY at Schenectady in 1922. These talks continued regularly for more than eleven years. In August, 1933, the Department changed its type of weekly broadcast from a five-minute health talk to a fifteen-minute health play. The series, given

the title, The Health Hunters, is entirely the work of members of the staff of the State Health Department. The plays are written and produced by the staff as a part of their regular work.

About a year after the first of The Health Hunters series was written, the State Department of Health began recording these plays on electrical transcription records which could be used in broadcasting from other stations, and reproduced, by means of portable sound equipment, at all types of meetings. This use of the transcriptions has progressed until the Department now has a network of seventeen radio stations in the State, outside of New York City, using The Health Hunters series as a regular weekly broadcast feature.

A list of the subject matter shows that the broadcasts cover not only the conventional subjects usually discussed in health education, but seasonal matters that lie even closer to the conscious interests of communities. Among the topics dramatized are the following: self-medication and worthless patent medicine "cures"; facts and advice on measles; suggestions on healthful and economical foods; the importance of early diagnosis in tuberculosis; protecting public water supplies; the common cold and its transmission; and venereal diseases and sex instruction for children.

The last mentioned topic has been a delicate subject in radio dealings. The New York State Department of Health, after various experiences with broadcasters, has arrived at the conclusion that local stations generally, at least in New York State, are more ready to cooperate in the dissemination of social hygiene information than the national companies.

> The largest number of letters so far—387—came in response to a play dealing with venereal disease. . . . This result seems to show that radio managers have imputed a nonexistent squeamishness to the public when they have ruled mention of venereal disease off the air.[13]

[13] "Honors on the Air," *The Survey*, LXXI: 212–13, July 15, 1935.

*Broadcasting Station in Buffalo High School*

The Seneca Vocational High School in Buffalo prides itself on being the only high school in the United States to have its own broadcasting transmitter. The station, of which the call letters are WSVS, was provided by the Buffalo Board of Education expressly for the purpose of supplementing the instruction at this vocational school in communication engineering. All the boys specializing in electricity and communication have opportunity to study the transmitting device and to assist in the operation of the station under the supervision of a licensed radio operator. Although the students participate to some extent in the preparation of radio programs, this phase of broadcasting is not emphasized. Also, no attempt is made to arrange broadcasts for use in the Buffalo elementary or regular nonvocational secondary schools. The programs are for general home consumption, consisting for the most part of transcribed music and speeches, locally produced drama, news broadcasts, and miscellaneous addresses.

*Binghamton Night School of the Air*

This experiment, developed under the leadership of James P. Kavanagh, Director of Central High School, and with the cooperation of Station WNBF, was devised for the purpose of affording to employed adults an opportunity to continue their formal education.

The broadcasts are given in the evening in order to accommodate all those listeners who are not at leisure during the day. The first term was begun in the spring of 1937 and consisted of a single course, Better Speech. The following term the school offered two courses, Psychology at Home and Better Expression.

The distinctive feature of this enterprise, which is an integral part of the Binghamton school system, is that it permits listeners to become enrolled in the radio class and to earn

school credit. Mr. Kavanagh believes that the chief contribution of the First Night School of the Air, as the project is called, is that it has proved that classes can actually be organized and perpetuated by radio and that hence the earning of school credit by this means is possible for employed adults. "Attendance" is registered by the listener sending a postcard after each lecture. Students are required to indicate on these cards, not only that they have listened to the lesson, but also whether or not they have comprehended it. At least half of the lessons must be reported before the certificate is awarded.

This is an interesting experiment and undoubtedly can be of value as is attested by the fact that four hundred persons earned certificates the first term and that the enrollment increased to two thousand in each course the second term. If this experiment does not stop short of making a scientific evaluation of the results of the broadcasts, it can be the means of making a positive contribution to education, particularly in the field of adult education.

*Other Broadcasting Activities*

It would be impossible to enumerate all the educational broadcasting activities going on within the State. Broadcasts which are distinctly educational in character are transmitted more or less regularly over every broadcasting station, whether commercially or privately owned. For present purposes only a very few more features, picked at random, will be mentioned. There is, for example, the Brooklyn Polytechnic Institute, which has an elaborately equipped communications laboratory and provides instruction in the principles of radio. Station WGY has featured many educational broadcasts, among them an interesting series of talks on municipal problems by prominent city and state officials and government experts sponsored during the winter of 1937 by the New York State Conference of Mayors and Other Municipal

Officials. Columbia University[14] makes use of various commercial stations for its radio projects, while Skidmore, Clarkson, and Union colleges, the New York School of Social Work, and New York University, to mention but a few, broadcast educational programs over the stations in their localities. The Board of Education of the City of New York has announced its plan to embark upon an extensive program of classroom broadcasting. Broadcasts are to be prepared for high school and elementary school classes, and in addition a number of broadcasts will be provided to deal with problems of peculiar interest to parents. The elementary school topics will include history, literature, and nature study, while those intended for high school use will cover science, art, music, literature, and current events.

## THE VALUE OF THE PROJECTS

In reviewing the production of educational broadcasts it is safe to say that in general more is known of what is sent out into the air than of what is actually received, or of how the broadcasts are used. Particularly is this true of the use of educational broadcasts by adults. In the city school systems, such as Rochester and Cleveland, it is possible to estimate the results of the experiments. In Detroit, where listening is compulsory regardless of the nature of the work going on at the time the broadcast happens to come, the opportunity for checking on results is even greater. It is known, for example, that the vocational guidance broadcast intended for high school students is heard by every high school class no matter what the subject of study happens to be—English, mathematics, chemistry, or French. Class work is suspended in

[14] The Radio Research Bureau of Teachers College, Columbia University, which was in existence from 1929 to 1932, collected information based on the experience of school teachers. The Bureau gathered information on the types of broadcasts used, the results of the experiments with broadcasts, and their value for the school lesson. Cf. Margaret Harrison, *Radio for the Classroom Teacher*. New York: Prentice Hall, 1937.

every room while the broadcast on vocational guidance is on the air. But so far as the country as a whole is concerned, all conjecture as to listening habits among school children is futile.

The *National Visual Education Directory* lists 11,501 school-owned receiving sets and 841 centralized radio-sound systems. The figures for New York State are: receiving sets 913, and central systems 67. These figures, of course, do not throw any light on the subject of listening or on the size of the listening audience.

CHAPTER VIII

# Role of the State in an Educational Radio Program

No institution or department of learning can afford to ignore entirely education by radio. Educational broadcasts are being increasingly applied to formal instruction, and eventually radio technique is bound to influence vitally the whole educational procedure. The state educational organization is ideally adapted to place itself in the vanguard of the movement, since it can render an invaluable set of supplementary services.

## SOURCE OF INFORMATION

Educational institutions such as the United States Office of Education, the National Committee on Education by Radio, the National Advisory Council on Education by Radio, the American Council on Education, the National Conference on Educational Broadcasting, the Institute for Education by Radio, and many others, attempt to keep abreast of all developments in radio technique and all phases of educational work related to the use of radio, and to make the information they possess available to all interested persons. While the service thus rendered is of inestimable value, it cannot always be readily adapted to the solution of local problems. Such problems must be handled by experts who have opportunity for scrutiny at closer range, and who are familiar with local problems generally. The state department of instruction appears to possess the proper qualifications for this purpose.

Information about broadcasts—their nature, source, value—is the first concern of schools desirous of utilizing radio in educational procedure. Granted that there are fine broadcasts that will enhance the value of classroom lessons, where are they to be found? How could one be informed about them in advance in order to plan for their reception? What types of broadcasts are really usable as media of instruction? These are some of the questions that need to be answered, and they are of the type that the state is best adapted to answer. There is no adequate radio guide at the present time. Various schools of the air and other educational radio projects supply advance announcements about their programs, and the newspapers and other periodicals furnish announcements about general radio programs, but this does not cover the whole field. Moreover, such announcements do not always indicate the exact content of each forthcoming broadcast.

For the most efficient use of educational broadcasts, foreknowledge with respect to the nature of the broadcasts is a prerequisite. The many excellent radio addresses on scientific, literary, social, or other subjects broadcast by commercial stations are often not taken advantage of because those who might use them do not know about them beforehand. What is needed is a radio guide consisting of adequate synopses of all planned broadcasts, so that the educational institutions interested in using them may have an opportunity to study the programs and provide for their intelligent use. The state department of education might conceivably undertake this most valuable task.

Schools are interested in all such matters as the allocation of radio channels, the availability of broadcasting channels for educational purposes, the status and the problems surrounding the use of the ultra-short-wave band of radio channels, the value of electrically transcribed broadcasts, the status of television, and the more immediately practical problems which concern reception equipment. For all these matters

it is exceedingly desirable to have a central bureau of information, and especially one which can interpret problems in terms of local situations and local needs. Such a bureau could disseminate information on vital points and forward the intelligent application of radio to organized education. For example, one perplexing problem which might be obviated is that concerning whether or not individual receiving sets or a centralized radio-communication system, with combined radio, phonograph, microphone, building telephone, and recording equipment, would best serve the school's purpose. The centralized system is an expensive device and should not be purchased without full knowledge of the value it renders. The writer's observations in several schools tended to confirm her general impression that the cost of such a mechanism is not justified by its value. Principals readily admitted that they regretted the investment. A bureau of information located at the state capital should assist materially in the avoidance of such mistakes.

Another vital matter is the effect that the perfection of television will have upon the use of radio in schools. This has become especially important since the announcement by the Federal Communications Commission[1] that it will allocate a number of channels in the ultra-short-wave spectrum to this as yet unperfected device for communication. This arrangement will provide increased opportunities for developing television technique, which should facilitate the introduction of television in schools.

It would be of particular benefit if the schools could follow each other's progress in radio instruction. Valuable discoveries relating to teaching techniques, methods of distributing broadcasts, and the like, should be available to all interested schools.

There are at present publications, chief among them, *Education by Radio*, the monthly bulletin of the National Com-

[1] Reported in *The New York Times*, October 19, 1937.

mittee on Education by Radio, and the *News Letter* of the Bureau of Educational Research of Ohio State University, which supply this type of information to a limited extent. The State Education Department might well render a similar, but more directly applicable, service to the State through a more intensive program.

A still more important cooperative feature would be the sharing of radio programs of proven value. Smaller schools and school systems without the necessary facilities for the production of first-class broadcast materials should have an opportunity to make use of those programs which the better equipped schools have found valuable. In all these and many other related matters a state department could render much-needed service. Nor need the outlay for such service be excessive. One competent consultant, thoroughly familiar with radio problems, could probably handle, in its initial stages, the type of enterprise described.

### PROVISION FOR BROADCASTS

Radio programs should be of special value in connection with those parts of the curriculum which are at any given time in transition, particularly where the syllabi are in need of, or are actually undergoing, revision. With the radio, improvements can be made immediately available without the long delays now caused by printing and distribution, and the training necessary for the teachers who are to use the new materials. At the present time citizenship and social science are apparently the fields where the greatest aid is needed, and where the greatest gains may be expected. If for no other types of instruction, then at least for these, a state school of the air would be of tremendous value. It may well be that as more specialized instruction is needed for which no adequate teaching facilities exist, local schools of the air will become indispensable features in every state educational system. Radio will be invaluable also in providing instruction to

adults. A state education department might profitably utilize its school of the air in connection with its adult education program, especially in keeping adults in touch with current movements.

The organization of a school of the air is attended by many problems, particularly those that relate to distribution facilities, to the production of broadcasts, to the organization of the administrative setup, and to the evaluation of results. These problems will be considered in the following sections.

The first consideration in setting up a school of the air concerns the mechanism whereby the radio lessons can be distributed. It is important to choose wisely in this connection because without adequate broadcasting facilities the whole radio enterprise will be valueless. Several possibilities exist for procuring distribution facilities. It is possible to buy time at commercial rates, to procure free time from commercial stations, to own a regular station, to own a chain of ultra-high-frequency transmitters, or finally to take over a noncommercial station.

Buying time from commercial stations is not a satisfactory arrangement for it is too expensive for most educational systems. The practice, moreover, is not in keeping with the dominant philosophy concerning radio. Inasmuch as the airways belong to the people, it would seem that the use of them for public benefit should be available without charge. Commissioner Studebaker has emphasized this point repeatedly, stressing the fact that the people should be helped to remember that it is in their interests that stations are licensed: "I consider it one of the responsibilities of government to keep that sense of ownership fresh and clear in the minds of the people."[2]

[2] John W. Studebaker, United States Commissioner of Education. "The Government's Responsibility for Educational Broadcasting," an address given before the Eighth Annual Institute for Education by Radio, Columbus, Ohio, May, 1937.

Commercial broadcasting companies are glad to make their stations available to educational projects, because such cooperation with public institutions insures the renewal of their licenses and also because school programs constitute inexpensive sustaining programs. The difficulty with this arrangement arises in connection with the use of radio time. It is often impossible to get an hour suitable for the purpose; and, an even more serious matter, the assigned broadcasting periods cannot always be regarded as permanent.[3]

Inasmuch as an ordinary school broadcast would not necessitate elaborate requirements, a satisfactory network consisting of WHAM in Rochester, WGY in Schenectady, and perhaps one or two other stations including the municipal station WNYC in New York City, might afford an admirable broadcasting setup for a New York State School of the Air.[4] Such an arrangement has several points to recommend it: it could take advantage of the facilities that already exist in Rochester, could insure ample coverage for the State, and could obviate the necessity for a state-owned station.

Several interested groups, notable among them the Civil Liberties Union, have striven for legally defined allocations of radio time for educational purposes. Such efforts so far have been entirely fruitless. The two bills which proposed that a percentage of total broadcasting hours be set aside for educational purposes were defeated.[5]

A state-owned station is in many respects the ideal plan for a school of the air. Under such an arrangement any question of insecurity as to policies, time, or facilities would be eliminated. With a private station, the State would be equipped to render exactly the type of service that its schools required.

[3] "Four Years of Network Broadcasting," page 49. A report by the Committee on Civic Education by Radio of the National Advisory Council on Radio in Education and the American Political Science Association. Reprint from *Radio and Education*. Chicago: University of Chicago Press, 1936.

[4] See pages 131 to 136.

[5] The Fess and the Wagner-Hatfield Bills.

In connection with such an arrangement, there are, however, certain disadvantages. The most obvious is the expenditure entailed by the undertaking. There is not only the initial cost in setting up the station, which would be from about fifty to eighty thousand dollars, but the yearly upkeep, which is also considerable. There are, for example, ever-increasing technical requirements, and because educational stations are just as obligated to obtain these as are commercially operated stations, they must be prepared to spend large amounts of money for this purpose every year. Then there is the expense involved in providing the number of broadcasts required as proper use of air time. The situation in Wisconsin, mentioned earlier, is an illustration of the effect that this requirement has on educational stations.

Perhaps the most desirable system ultimately will be to install a chain of ultra-high-frequency stations, utilizing a portion of the ultra-short-wave bands recently set aside for the needs of education.[6] Until more can be known about the value of such a system in actual practice and until the cost factor can be fairly definitely ascertained, it will be more feasible to adopt some other plan.

Bringing together the privately owned stations at St. Lawrence, Cornell, and Rensselaer Polytechnic universities into some form of network has also been suggested, but it is not feasible for the present because all of these educational institutions have been obliged either to sell a considerable part of their time to commercial advertisers or to surrender their title in some other way. Under this plan it would be necessary to purchase the necessary broadcasting time and facilities.

Under present circumstances, for experimental purposes, exclusive control of one of the university stations appears to

[6] The decision of the Federal Communication Commission on January 30, 1938, to reserve twenty-five channels in the ultra-high-wave band of the ethereal spectrum for nonprofit educational broadcasting provides at least 1,250 radio stations for this purpose.

be the most desirable arrangement. Inasmuch as these stations are obliged to rent part of their air time because of inability to meet federal requirements, it is conceivable that they would welcome an opportunity to be relieved of all responsibility in this respect. Without loss of title, one of these institutions might find it advantageous to transfer to the State Education Department all control of the radio station over a stipulated period of time. The arrangement would place upon the State Department the burden of securing all necessary technical improvements, and of meeting all requirements concerning the proper use of radio time. These would be unimportant items, however, in comparison with the benefits derived. The arrangement would provide opportunity for a wide, unrestricted experimental project based upon the State's own needs and built around its own peculiar advantages.

The production of good school broadcasts will require a careful study of the needs of schools, able planning of courses to meet these needs, the preparation of the broadcast material, or what is known as writing the scripts, and the presentation of the broadcasts.

The experience of similar enterprises of the past will undoubtedly furnish much assistance to a newly organized school of the air. But as many of the production problems remain unsolved, and as local needs must play a large part in determining the type of service needed, the matter will have to rest largely with the sponsors and supervisors of the project. For example, the methods in use in Cleveland could hardly be applied to a school project which is built around an entirely different set of objectives. The needs of the educational system will gradually reveal themselves as the enterprise progresses, and broadcasts can be planned accordingly. The initial steps will have to be of an experimental character, making their contribution, preferably, to the newest subject matter fields.

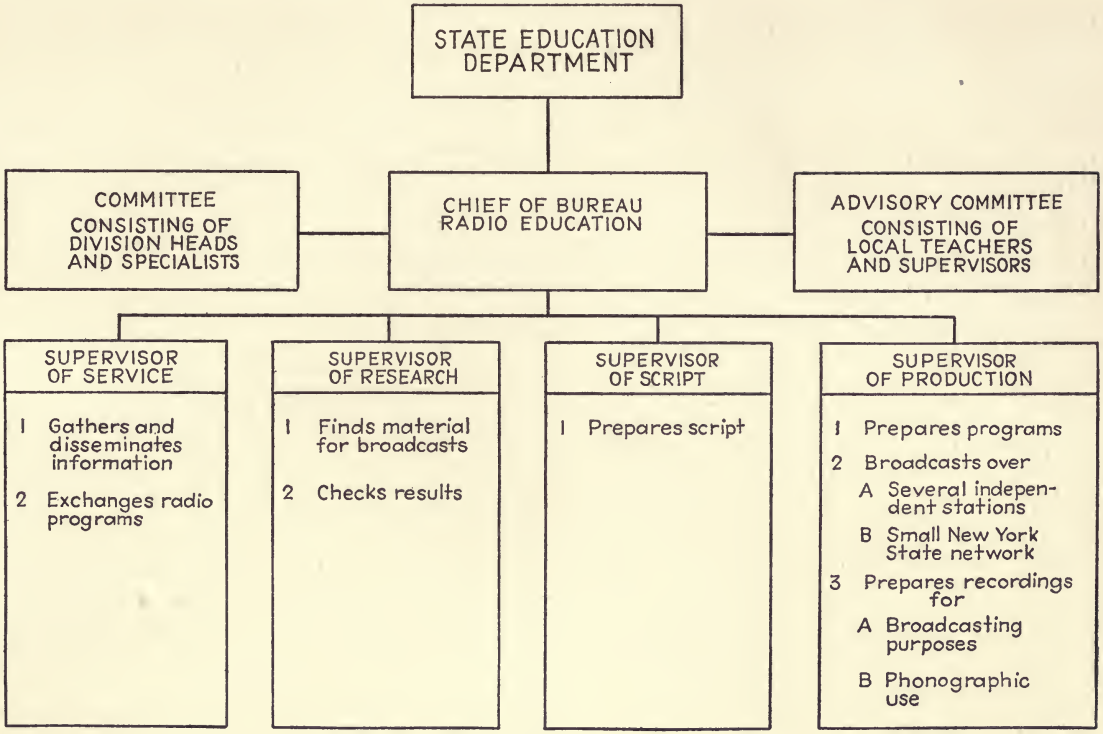
STATE EDUCATION DEPARTMENT
COMMITTEE CONSISTING OF DIVISION HEADS AND SPECIALISTS
CHIEF OF BUREAU RADIO EDUCATION
ADVISORY COMMITTEE CONSISTING OF LOCAL TEACHERS AND SUPERVISORS
SUPERVISOR OF SERVICE
1 Gathers and disseminates information
2 Exchanges radio programs
SUPERVISOR OF RESEARCH
1 Finds material for broadcasts
2 Checks results
SUPERVISOR OF SCRIPT
1 Prepares script
SUPERVISOR OF PRODUCTION
1 Prepares programs
2 Broadcasts over
A Several independent stations
B Small New York State network
3 Prepares recordings for
A Broadcasting purposes
B Phonographic use

CHART 2. PLAN FOR STATE RADIO EDUCATION

One of the most important things in a school of the air is its plan of administration. Aside from securing the services of able persons to manage the project and to produce the programs, it is of utmost importance that teachers and educational authorities should be drawn into active participation. Cooperation from school people insures the preparation of usable broadcasts and insures enthusiastic reception by the schools.

### RESEARCH AND EXPERIMENTATION

The use of radio for educational purposes offers opportunities for research and experimentation in the following fields: technological improvements, psychological measurements, and classroom technique. While all of these are important, only the last mentioned may be said to come properly within the province of a state education department. Improvements in transmission, in the production of sound effects, and in acoustics will have to come from commercial radio and from schools of technology. The effect of broadcasts on the learning habits of children, and on such mental processes as attention, memory, and comprehension, are matters which require a great deal of carefully controlled experimentation. While such work bears directly on the use of radio by schools, it is not a problem for the public schools to solve in the course of their routine work. The task requires expert knowledge in psychology and expert skill in measurement techniques, and thus constitutes a proper function for university research organizations and for departments of psychology and education. The findings from such experimental work, however, pertain to public school use of broadcasts, and should receive careful study and evaluation by the radio division of the department of education.

The experimental field which belongs logically to a state is the practical application of broadcasts to teaching. In other words, the one task which a state is best fitted to do is to set up experimental units, the purpose of which is to demonstrate

practically the value of radio as a teaching medium. Work of this character would involve clear definition of objectives, careful planning of programs, and accurate evaluation of results.

## STATE AND FEDERAL PROGRAMS

As has been pointed out earlier, the United States Office of Education at the present time conducts several radio projects. Among these are production of broadcasts, distribution of mimeographed radio scripts, maintenance of a radio workshop in cooperation with New York University, and other incidental activities such as the arrangement of radio commencement programs for remote regions. In view of what has already been undertaken by the federal government in this sphere, and of what might be further attempted should an ultra-high-frequency wave band be set aside for the purpose, the question naturally arises: should the major emphasis be placed upon the development of a national educational program or on a series of state programs?

The advantages of concentrating all effort upon a national program are: the economy of mass production at a single center; full utilization of the few experts now available; the greater prestige of the national government, particularly in its dealings with the Federal Communications Commission; the ability of the Office of Education to conduct experiments and attempt entirely new methods because of its freedom from responsibility for local school operation, or to state and local boards of education with limited imaginations; and the prompt extension of the advances made to the most distant and poorest sections as well as to the wealthy states.

These are important considerations. There are also, however, great disadvantages in an exclusive national program. These are: remoteness of Washington from most of the United States, and the certainty that the programs will not fit conveniently into the varying curriculums of the various state systems, or give attention to the more intimate local aspects

of life; lack of individuality in the handling of learning materials and in methods of presentation; time differentials, which have already disturbed the commercial networks; the greatly increased difficulty of leading local schools to use the broadcasts as an integral part of their curriculum, because the government has no authority over their work. There exists also the possibility that a national school of the air would create opportunities for the dissemination of political propaganda. While a serious consideration, such a contingency should not create undue apprehension, as it is possible to guard against it by making the radio department independent of the changing political personnel, putting it under the authority of educators. A greater danger, in this connection, lies in the possibility that sectional prejudices might hamper freedom of thought and expression. The necessity of making broadcasts acceptable to every class and faction would tend to reduce all issues to the lowest common denominator.

In contrast to the disadvantages inherent in the centralized arrangement, the following important advantages may be given in favor of a state system: the broadcasts produced by the state department would be appropriate to the curriculum, which is controlled by the same department; there would be an intimate understanding of local requirements; radio education would be of service in meeting specific needs, and would not be a "hand out"; and, finally, the arrangement would provide the most favorable conditions for research and experimentation, since a state program lends itself more easily to change than the vaster, more unwieldy program.

The argument in favor of state administration does not, of course, preclude the use in state programs of many features arranged by the Washington office, but it does mean that they will not be included over the state educational network unless they are acceptable to the state office. Undoubtedly in the years to come the federal office will develop an increasingly important supplementary service. At this stage of develop-

ment, and for so much of the future as can now be envisioned, it would seem that a federal program and a state program are complementary, and not in any way mutually exclusive.

Whatever is ultimately done on a national or regional scale in the development of schools of the air,[7] it seems clear that the state departments of education must maintain central informational, advisory, and research centers along the lines here recommended.

[7] For example, New England, New York, and northern New Jersey, might jointly finance a school of the air.

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